AUTOMATIC IDENTIFICATION TECHNOLOGY III (AIT-III)

SPECIFICATION AND STATEMENT OF WORK

APPENDICIES:

1 SCOPE.

1.1 AUTOMATIC IDENTIFICATION TECHNOLOGY ACQUISITION OBJECTIVES.

The objectives of the Automatic Identification Technology III (AIT-III) acquisition are to provide a state-of-the-art, common, integrated structure for logistics tracking, locating, and monitoring of assets and processes. In addition, data collection, storage information, information processing, and transmission of AIT data will greatly enhance systems within Department of Defense (DoD), United States Coast Guard, and other Federal Agencies. AIT technologies will provide standardization and interoperability among Government users of AIT components purchased from this contract.

1.2 DESCRIPTION.

This Specification and Statement of Work sets forth the requirements for the AIT-III technology acquisition. The Contract shall provide for state-of-the-art, commercial items (as defined in FAR 52.202-1(c)) needed for automatic identification, data collection, keyless data entry, data processing, data storage, data retrieval, data transmission, and the tracking of assets, including the use of Radio Frequency (RF) technology for users throughout Department of Defense (DoD), Coast Guard (CG), contractor purchases in support of DoD, Foreign Military Sales (FMS), and other Federal Agencies. The Government requires software for development (libraries, device drivers, application programming interfaces, development tool kits), equipment operating systems, radio frequency transaction management (RF engines), bar code label and form generation, application generation software, application software development kits, and communications. Associated technical engineering services (systems integration, software development, surveys and installations), instruction and training, maintenance, documentation, and program management are required.

The technologies required by the Government encompass bar code symbologies, card technologies (that is, integrated circuit cards (smart cards), PC memory cards, magnetic stripe cards, and optical memory cards), contact or touch memory, direct thermal and thermal transfer printing, radio frequency data communications, and future technologies as they are developed. These future technologies include, but are not limited to, biometrics, systems using satellite communications to relay data and provide position information, cellular telephony, voice recognition, smart labels (combined bar code label and RF transponder), contactless integrated circuit cards, micro-electronic mechanical systems (MEMS), and Radio Frequency Identification (RFID) technologies. The Government requires equipment with these technologies to support both current and future requirements. The requirements are for both civilian and military operations worldwide. The Government requires equipment compliant with open systems standards as described in the DoD Joint Technical Architecture (JTA).

The categories of required equipment include, but are not limited to:

a. Data collection devices (portable, pen-based, and mobile);
b. Bar code laser scanners and imaging scanners;
c. Printers (direct thermal and thermal transfer bar code label printers);
d. Encoders and readers for optical memory cards and integrated circuit cards;
e. Contact or touch memory devices.

1.3 AIT-III APPLICATIONS.

Some anticipated AIT-III applications include, but are not limited to:

a. Inventory and warehousing environments;
b. Large open-area storage facilities (austere marshaling areas, and staging and assembly areas), with or without electrical power or an established communications infrastructure;
c. Maintenance, repair, and tracking facilities;
d. Entry and exit points of military facilities, and roadside installations;
e. Restricted office and laboratory environments;
f. Transactions at custody exchange points (for example, weapons issue facilities);
g. Military transportation community (for example, seaports and air terminals), and petroleum distribution points (including fueling operations at airports, in-flight, and at sea);

h. Handling of hazardous, explosive, or other regulated materials;
i. Military convoys.

2 APPLICABLE DOCUMENTS, DEFINITIONS, AND ACRONYMS.

AIT-III is the fifth generation AIT contract to support users, and system developers and integrators in the DoD, Coast Guard, and other Federal Agencies. The first AIT contract was the DoD Logistics Applications of Automated Marking and Reading Symbols (LOGMARS). LOGMARS defined and created requirements for the logistics community including the use of Code 3-of-9 bar codes. LOGMARS-II was the second AIT contract. The third AIT contract popularized the use of real-time radio frequency data communications and data collection. Hand-held, portable, user-programmable, bar code laser scanner terminals were integrated into Government functional areas. The fourth and current AIT-II contract incorporated standard operating systems and Radio Frequency Data Communications networks.
Some of the functional areas supported by AIT acquisitions are:

a. Army Logistics systems (Standard Army Retail Supply System — Objective (SARSS), Standard Army Maintenance System/Global Combat Support System, Tier I (SAMS/GCSS-Army), TIS, Standard Army Ammunition System (SAAS), Standard Property Book System-Redesign (SPBS-R), Unit Level Logistics System (ULLS);
b. Army National Guard and the Supply Accounting and Management Information System (SAMIS);
c. Air Force Logistics systems (Air Force Supply Asset Tracking System (SATS) and Cargo Movement Operations System (CMOS));
d. United States Transportation Command (USTRANSCOM) systems (Worldwide Port System (WPS). Global Air Transportation Execution System (GATES). Scanners with 2-dimensional symbology decoding capability are integrated into terminals (portable data collection terminals (PDCT) are fulfilling the requirements of the DoD logistics community for accurate, automated acquisition of significant amounts of data for shipping change. Military Shipping Labels with 2-dimensional symbology are printed to man carried printers from PDCTs.
e. The Defense Logistics Agency (DLA) use of optical memory cards in the Automated Manifest System (AMS). Scanners with 2-dimensional symbology decoding capability are integrated into terminals are fulfilling the requirements of the DoD logistics community for accurate, automated acquisition of significant amounts of data for shipping and electronic data interchange;
f. The Defense Property Accountability System (DPAS) utilizes bar code technology for tracking of real and personal property for accountability and reporting.
g. DoD is expanding its interest and efforts to acquire and implement AIT-enabling technologies, especially within the DoD logistics community.
h. Marine Corps Marine Air Ground Task Force (MAGTF) Logistics, Retail Supply and Maintenance System (ATLASS II+), and Retail Ordnance Logistics Management System (ROLMS) applications.
i. Navy Shipboard Non-Tactical auto Data Processing System (SNAPS), Navy Aviation Logistics MIS (CALCOMIS), and Micro Electrical Mechanical System (MEMS) applications.

2.1 APPLICABLE DOCUMENTS.

See Appendix A. The Applicable Documents are relevant to this Specification and Statement of Work to the extent specified herein. In the event of conflict between the Applicable Documents and the contents of this Specification and Statement of Work, the Specification and Statement of Work shall govern. Nothing in this Specification and Statement of Work supersedes applicable laws and regulations, unless a specific exemption has been obtained.

2.2 DEFINITIONS.

See Appendix B.

2.3 ACRONYMS.

See Appendix C.

2.4 JTA REFERENCES.

See Appendix D.

3 REQUIREMENTS.

3.1 GENERAL.

The Government requires equipment that supports the requirements of the Joint Technical Architecture. The Government requires Contractor support during Official Hours of Operations. AIT-III equipment and its components shall operate in worldwide locations and in the identified environments. The equipment shall support required industry standard symbologies. The equipment shall support U.S. and Host Nation Country power and radio frequency requirements. The platforms of Automatic Identification Technology are required to support the requirements of the Government. Transit Case Groups are required to support missions that require rapid deployment worldwide of groups of AIT-III equipment. The Government requires commercial software packages and software for application development. Program Management is required to support the Government's efficient execution of this Contract. Warranty and Maintenance services are required to ensure the reliability and availability of AIT-III equipment. Technical Engineering Services are required to help the Government incorporate AIT-III equipment into its applications. Instruction, training and documentation are required to inform and educate the Government users.

3.2 JOINT TECHNICAL ARCHITECTURE COMPLIANCE.

The Joint Technical Architecture (JTA) is the minimal set of rules governing the arrangement, interaction, and interdependence of the parts or elements that together form an information system. Its purpose is to ensure that DoD systems are interoperable, scaleable, and portable. AIT-III equipment specified in this Contract is not considered by DoD to be a system. Rather, AIT-III equipment is used to provide data entry front-ends for DoD systems. This Specification includes small computer platforms and components that may be proprietary, or that have neither the capacity nor the scope to satisfy JTA requirements. For example, the operating systems for portable data collection terminals do not meet Common Operating Environment requirements. JTA requirements for modeling and designing a system are also not required by this Contract. Systems developers incorporating AIT-III equipment purchased from this Contract will address AIT product modeling and design requirements in their system models and designs. The JTA requirement for purposes of this Contract is for AIT-III equipment to interface with supported systems. Interface requirements for AIT-III equipment are part of the specifications for these components. For each component provided by the Contractor, the Contractor shall identify each external interface of the component for which a standard interface specified in the JTA applies, and shall certify that that interface is compliant with a JTA standard. Applicable JTA references are located in Appendix D.

3.3 GEOGRAPHIC LOCATIONS.

The Government requires equipment that can be used worldwide. The Contractor shall provide equipment certified to meet the regulatory guidance to permit their use by the Department of Defense (DoD), the Coast Guard (CG), FMS, and other Federal Agencies, in US and Host Nation Country locations.

3.4 OFFICIAL HOURS OF OPERATION.

The Contractor shall provide support during local Official Hours of Operation, based on the geographic location of the Government site at which the support will be provided. Help Desk requirements are specified in the paragraph entitled "Toll-Free Customer Support Help Desk."

3.5 POSITION SENSITIVITY.

DoD 5200.2-R, the Department of Defense Personnel Security Program, requires active duty military, DoD civilian, DoD consultants, and contractor personnel performing work on sensitive automated information systems (AISs) to be assigned to positions which are designated at one of 3 sensitivity levels (IT – I, IT – II, or IT – III). These designations equate to Critical Sensitive and Non-Critical Sensitive positions. The employing contractor shall ensure individuals assigned to these sensitive positions have completed the appropriate access request forms.
IT Level – I -- Individuals assigned to positions where damage to DOD networks and development systems can be accomplished and no checks are in place to determine potential destruction of sensitive information.
The investigation requirement for these positions is completion of a Special Security Background Investigation (SSBI) with favorable results.

IT Level – II and III -- Individuals assigned to positions where daily unsupervised access to DOD networks and information systems containing Sensitive but Unclassified or Sensitive Classified up to and including Collateral Secret information is a portion of their duties.
The investigation requirement for these positions is completion of a Defense National Agency Check with Written Inquiries (NACI) with favorable results. (Note: For United States citizens, a submitted NACI with a successful local records check will allow assignment to positions at the discretion of the Contracting Officer and in the best interest of the DoD before the completion of the investigation).
For positions identified as IT - II and III, foreign nationals may be appointed if they:

1) possess a unique or unusual skill or expertise that is urgently needed for a specific DOD requirement and for which a suitable United States citizen is not available and:
2) approved in writing by the PEO EIS as the Agency Director or other designated authority (PEO EIS is the designated authority for the US Army). However, under no circumstances can these individuals be assigned before completion and favorable adjudication of the appropriate security investigation.

In all cases, the Contractor shall forward employee investigation information to the Contracting Officer before assignment of these individuals on contract and will ensure a visit request with that investigation information is provided yearly.
The Government retains the right to request removal of Contractor personnel, regardless of prior clearance or adjudication status, whose actions while assigned to this contract conflict with the interests of the Government. The reason for removal will be fully documented in writing by the Contracting Officer.

3.6 CONTINUED PERFORMANCE DURING SUPPORT OF CRISIS SITUATIONS, CONTINGENCY OR EXERCISE.

The Contractor shall provide continued performance during support of crisis situations, contingency or exercise in accordance with the paragraph entitled “Continued Performance During Support of Crisis Situations, Contingency or Exercise” in Part C-1-1.

3.7 OPERATING ENVIRONMENTS.

The Government requires AIT-III equipment that can be used in the following environments: electromagnetic, interface, hazardous, ordnance, radio frequency, and rugged environments.

3.7.1 ELECTROMAGNETIC ENVIRONMENT.

Commercial AIT-III equipment may be used in the vicinity of spectrum-dependent devices that receive low-level signals and/or transmit high-level signals (See MIL-STD-464: Interface Standard for Systems Electromagnetic Environmental Effects). In order to certify the use of commercial AIT-III equipment in these environments, the Government may subject representative categories of equipment to radiated emission and susceptibility tests (See MIL-STD 461D: Requirements for the Control of Electromagnetic Interference Emissions and Susceptibility, and MIL-STD-462D: Measurement of Electromagnetic Interference Characteristics). The Contractor shall support Government-testing efforts by providing technical data sheets and responding to Government requests for additional data.

3.7.2 HAZARDOUS ENVIRONMENT.

Where specifically required in this Specification, the Contractor shall provide equipment that is identified and certified as Nonincendive (NI) for operation in environments where flammable and explosive gases and vapors may be present. At a minimum, the following NI requirements shall be met:

Class 1 (Gases and Vapors)
Division 2 (Not present in normal operation)
Groups
A (Acetylene)
B (Hydrogen)
C (Ethyl Ether, Ethylene)
D (Acetone, Ammonia, Benzene, Butane, Cyclopropane, Ethanol, Gasoline, Hexane, Methanol, Methane, Natural Gas, Naphtha, Propane)

Class 2 (Combustible Dust)
Division 2 (Not present in normal operation)
Groups
F (Combustible carbonaceous dusts)
G (All other combustible dusts, such as grain dust)
Class 3 (Easily Ignitable Fibers)
Division 2 (Not present in normal operation)

NI is a rating classification of equipment specifically defined in the National Electrical Code (NEC). To be given an NI rating, the Contractor shall have demonstrated that equipment cannot, under normal operation, produce a spark or other undesirable effects that might cause combustion in any potentially hazardous environment. The presence of gases, vapors, flammable liquids, combustible dust, or ignitable fiber or flyings are examples of potentially hazardous environments. Equipment shall be certified by an approved testing laboratory meeting OSHA standards. Circuits shall not be capable of producing a spark under normal operation. AIT-III equipment may be used under conventional, chemical, or biological warfare conditions. The Contractor shall label components that are approved for use in a hazardous environment in accordance with governing body markings.

3.7.3 ORDNANCE ENVIRONMENT.

AIT-III equipment may be used in the vicinity of ordnance susceptible to radiated energy. In order to certify the use of AIT-III equipment in these environments the Government may subject representative categories of equipment to stringent Hazards of Electromagnetic Radiation to Ordnance (HERO) environment testing (See MIL-STD 464). The Contractor shall support Government-testing efforts by providing technical data sheets and responding to Government requests for additional data.

3.7.4 RADIO FREQUENCY ENVIRONMENT.

DoD will obtain “Equipment Frequency Allocation Guidance” approvals before developing or procuring equipment that is designed to either emit or receive electromagnetic (radio frequency) energy. DoD will also obtain assignments to operate the items at each specific location in CONUS and in OCONUS. DoD will operate equipment acquired under this contract consistent with national and international regulations governing the use of the electromagnetic spectrum and the policies and procedures of DoD Directives and Instructions: 3222.3 DoD Joint Electromagnetic Environmental Effects (E3) Program**,** 4650.1 Management and Use of the Radio Frequency Spectrum, 5000.1 The Defense Acquisition System**,** 5000.2 Operation of the Defense Acquisition System and Defense Acquisition Guidebook. To facilitate obtaining frequency allocations and assignments in CONUS, the Government requires all equipment that is non-licensed to comply with NTIA Manual Annex K and with FCC Part 15, Subparts A, B, and C requirements for Class A digital devices. In order to verify the use of AIT-III equipment, the Government may subject selected pieces of equipment to electromagnetic compatibility tests (see MIL-STD-462D). The Contractor shall provide technical data to support the DoD frequency allocation-to-equipment process, including information concerning specifications and testing of the transmitter, receiver and antenna characteristics necessary for host nation coordination.

3.7.5 RUGGED ENVIRONMENT.

Certain AIT hardware will be used by the Government in “rugged environments” (i.e. industrial and field settings under temperate, arctic, maritime, desert, and tropical conditions). The words “rugged” or “ruggedized,” when used in this Part D-1, mean that the Government desires that such AIT-III hardware be designed, built, and tested to ensure reliable and continuous performance in all rugged environments.

3.8 BAR CODE SYMBOLOGIES.

The Contractor shall provide AIT-III equipment and software capable of decoding, encoding, and printing symbologies that comply with industry standards and specifications in Appendix A for Code 39, Code 128, CODABAR, Interleaved 2 of 5, European Article Numbering System (EAN), Universal Product Code (UPC), EAN.UCC Composite Symbology, PDF 417, MaxiCode and Data Matrix. The Government will develop labels in accordance with the specifications defined in ANSI MH10.8.2 Data Application Identifier Standard, ANSI MH10.8.3M Material Handling - Unit Loads and Transport Packages – Two Dimensional Symbols, ANSI

MH10.8M For Material Handling – Unit Loads and Transport Packages – Bar Code Symbols, and ANSI X3.182 Bar Code Print Quality Guidelines. The Contractor's equipment and software shall support the creation of bar code labels and the decoding of the data printed on the bar code labels per these standards. During the life of the contract, as other standards are developed, the Government may require other symbologies.

3.9 BAR CODE DENSITY.

Bar Code density is directly related to the width of the narrowest element (bar or space) of the bar code, which is called the "x" dimension. The "x" dimension is measured in mils (thousandths of an inch). Typical densities vary for each bar code symbology but are still related to the "x" dimension. The family of densities in this Specification is referred to as low density, medium density and high density. The bar code density is critical in defining the ability of bar code scanners to read various densities, and to the ability of bar code label printers to print various densities. The relationship of densities and the corresponding "x" dimensions are as follows:

Density	**Nominal "X" Dimension (in Mils)**
Low	12.5+
Medium	10.0
High	7.5

Note: The values listed in the right-hand column refer to "x" dimensions for linear bar codes and PDF 417, and to the cell width module for Data Matrix 2D symbology. Where Data Matrix is specified, the Contractor shall provide scanning/imaging equipment capable of reading and decoding Data Matrix ECC 200 symbology with nominal cell width module of 10 Mils and a minimum dark/light contrast of 35%. Label printers shall be capable of printing Data Matrix ECC 200 at a nominal cell width module of 10 Mils.

3.10 ORIGINAL EQUIPMENT MANUFACTURER ENGINEERING CHANGES

All Original Equipment Manufacturer (OEM) sponsored Engineering Changes (ECs) adopted prior to the date of contract award shall be incorporated into the hardware and software delivered under this contract.

3.11 POWER REQUIREMENTS.

The Contractor shall provide equipment designed and certified to meet quality and safety standards of Underwriters Laboratory (UL) or equivalent. The Contractor shall provide AIT-III equipment equipped with power supplies, fuses, adapters, and cables to use with locally available commercial power. AIT-III components shall be compatible with the power supply, and power outlets or connectors, for the geographic area in which the component is to be operated as specified in the Delivery Order or Credit Card Order except that Transit Case Configurations shall be provided with power cable sets to allow for worldwide operation. Plug Types for geographic locations are listed on the web site http://www.interpower.com/pcc/guide.htm.

3.11.1 POWER SUPPLIES.

AIT-III devices shall, to the extent available, automatically enter a low-power mode after a period of inactivity and automatically return to active mode upon resumption of system activity or receipt of external input. AIT-III devices shall be shipped with the power management feature enabled. The power supplies and AC adapters shall be of a type to prevent damage to the device if high voltage is present. The Contractor shall provide an approved country specific power cord for the country where the equipment will be operated. The power supplies and AC adapters shall be appropriately marked to indicate the product's safety certifications.

3.11.2 BATTERY-OPERATED AIT-III EQUIPMENT.

The Contractor shall provide two sets of rechargeable batteries (one set operational and one set spare) with each battery-operated AIT-III device acquired under this Contract.

3.11.3 RECHARGEABLE BATTERIES.

The Contractor shall provide rechargeable batteries that supply eight hours operation under typical use (but see more specific requirement for printers in subparagraphs under the paragraph entitled "Bar Code Label Printers") and that require no more than five hours to fully recharge. Typical use is benchmarked as the device powered on with two complete actions per minute. PDCTs are to scan, decode, display data, and transmit data from (via RF) two bar codes per minute. Rechargeable batteries shall be capable of charge operations without removal from AIT-III equipment. Batteries or battery packs shall be user-replaceable in the field in less than two minutes, and without special tools. Positive and negative terminals of rechargeable batteries shall be clearly marked unless the shape of the rechargeable battery prevents improper or reversed installation. Batteries shall not be susceptible to memory effect degradation. All battery charging devices shall be equally capable of charging batteries, e.g. waking up a battery, if required, to effect a charge.

3.11.4 INTERNAL BACK-UP POWER.

The Contractor shall provide:

a. A method to maintain the RAM memory for all PDCTs during changing of battery and for a minimum of five minutes while battery is removed.
b. No AIT Device shall require special storage procedures to prevent internal backup batteries from failing unless such batteries are user replaceable without special tools or training.
c. A method to maintain the RAM memory of PDCTs for a period of 72 hours when not in use.

3.11.5 LOW-POWER OPERATION.

Battery-operated AIT-III equipment shall provide the operator with a visible signal when battery power is low. The low-battery power indication shall provide the operator with at least five minutes of advance warning of an automatic shutdown. To preserve stored data and to conserve power, battery-operated AIT-III equipment shall automatically shut down before battery power is completely depleted.

3.12 ACCESSIBILITY

The Contractor shall provide a comprehensive list of all offered specific electronic and information technology (EIT) products (supplies and services) that fully comply with Section 508 of the Rehabilitation Act of 1973, per the 1998 Amendments, and the Architectural and Transportation Barriers Compliance Board's Electronic and Information Technology Accessibility Standards at 36 CFR Part 1194. The Contractor shall clearly indicate where this list with full details of compliance can be found (e.g., Contractor, subcontractor, vendor's, or other exact web page location). The Contract shall ensure that the list is easily accessible by typical users beginning five calendar days after receipt of the notice to proceed. The Contractor shall maintain this detailed listing of compliant products for the full contract term, including all forms of extensions, and shall ensure that the detailed listing is updated within three calendar days of changes to the Contractor, subcontractor's, or vendor's product line.

The Contractor shall ensure that all EIT products that are less than fully compliant are the most compliant products and services available to satisfy this Contract's requirements.

For every EIT product provided under this contract that does not comply with 36 CFR Part 1194, the Contractor shall, at the discretion of the Government, make every effort to replace or upgrade it with a compliant product or service, if commercially available and cost neutral.

3.13 COMMON CRITERIA COMPLIANCE REQUIREMENTS

Contractor's equipment provided shall be compliant and in adherence with the following documents. Common Criteria Compliance required by the following documents shall be addressed by the vendors:

a. DoD Memo 9 June 2003 Subject Internet Protocol Version 6 (IPv6).
b. DoD Memo 29 September 2003 Subject Internet Protocol Version 6 (IPv6) Interim Transition Guidance.
c. DoDD 8100.1 Global Information Grid Overarching Policy, September 19, 2002.
d. DoDI 8500.2 Subject Information Assurance (IA) Implementation, February 6, 2003.

3.14 EQUIPMENT DELIVERY REQUIREMENTS.

The Contractor shall provide all necessary equipment, software, cables, connectors, drivers, essential accessories, or ancillary items in order to make each deliverable item fully operational.

3.15 UNIQUE IDENTIFICATION.

Transit case configurations, all equipment for which the contract requires maintenance, and all battery chargers for PDCTs and the battery charger for the Portable/Wearable Bar Code Label Printer shall be permanently marked in accordance with the "Revision of Update to Policy for Unique Identification (UID) of Tangible Items - New Equipment, Major Modifications, and Reprocurements of Equipment and Spares," December 22, 2003. Marking is to include the UID on the item or identification plate in Data Matrix Bar Code symbology with Human Readable Interpretation (if adequate space is available). Data format shall be in accordance with the "Department of Defense Guide to Uniquely Identifying Tangible Items," Version 1.3, November 25, 2003.

3.16 IPV6 CAPABLE ASSETS

All PDCT and RFDC equipment provided under this contract shall be IPv6 capable as defined by the 5 Nov 2003 Army CIO memorandum “Army Implementation of DoD Internet Protocol Version 6 (IPv6) Mandate.” Specifically:

a. Equipment shall be compliant with the set of standards for IPv6 provided in the JTA, Version 6.
b. The contractor shall commit to upgrade equipment as IPv6 evolves.
c. The contractor shall provide technical support for IPv6.
d. Equipment shall maintain interoperability with IPv4, generally through a dual IP layer or dual-stack.

4 EQUIPMENT REQUIREMENTS.

The Contractor shall provide programmable, portable data collection terminals (PDCTs), scanners, printers, wired and wireless communications capabilities, interfaces, and various storage media with the associated readers and writers.

4.1 PDCT REQUIREMENTS.

PDCTs are microprocessor-based, hand-held devices used to automatically capture and store data. The PDCTs shall accept data through touch screen, integral bar code scanner or imager, and attached devices, and shall communicate with a host computer for data transfer and for downloading PDCT program instructions from a host computer. Where provided, laser scanners shall comply with safety requirements prescribed by the Bureau of Radiological Health (BRH) 1040 for Class II laser devices. The Contractor shall provide devices with graphical user interfaces and pen-based character recognition. The devices shall be provided with an operating system as described in the Software Section entitled “Portable Data Collection Terminal Operating Systems.” The Government desires that various classes of PDCT share uniform user and device interfaces. The Government also desires that a single platform of software (SDKs) and hardware (interfaces) be used for these classes of PDCT. The Contractor shall provide a Communication Docking Station/Battery Charger with a physical interface for communicating between the PDCT and a host computer. The unit shall also charge the batteries in the PDCT without removing the batteries from the PDCT. The Government desires an interconnectivity capability that provides maximum flexibility for supporting the attachable devices. PDCTs shall be capable of supporting DOD Public Key Infrastructure (PKI) interfaces. As a separately orderable component, the Contractor shall provide a semi-transparent and flexible dust cover for the keypad and screen to prevent dust and sand intrusion and damage to screen while permitting full use of the device (keypad, screen, and scanner).

4.1.1 TECHNICAL REQUIREMENTS.

The Contractor shall provide PDCTs with all of the following attributes and components:

a. Ruggedized construction;
b. Certified Nonincendive (The PDCT itself with Removable Memory Media installed, when not attached to other devices);
c. A screen or display that can receive input via pen and touch;
d. A minimum of ¼ VGA Color display;

e. A minimum 64 Mbytes RAM;
f. Backup power for RAM;
g. A minimum of 64 Mbytes user programmable ROM for OS and Application Software;
h. Operating system (OS) as described under “Portable Data Collection Terminal Operating System”;
i. Support for cabled data communications to a host PC;
j. Support for the Portable Bar Code Label Printer through a cable interface;
k. Provided with a battery charger/communications dock;
l. Provided with one set each of operational and spare rechargeable batteries;
m. Provided with stylus and spare stylus;
n. Provided with a user accessible memory card slot;
o. Provided with Removable Memory Media appropriate to the user accessible memory slot, in 256MB capacity. If an adapter is required, such as a memory card to PCMCIA slot adapter, it shall be provided. PDCTs shall accommodate any of the available capacities under paragraph entitled “Memory Card” equally well.
p. Support for interface with a Contact Memory Device Reader/Writer using USB or serial interface;
q. Physical interface, without use of communications dock, to peripheral devices used to read and write to Common Access Card (CAC);
r. Built-in Wireless Radio Frequency Data Communications conforming to IEEE 802.11b, with capability for user to inactivate radio (assured deactivation).

4.1.2 COMPACT PDCT-A.

The Contractor shall provide a compact, hand-held, user-programmable PDCT. The Government desires as compact a form factor as possible (pocket sized). This PDCT is intended primarily for office, warehouse, and occasional outdoor use in the worldwide Military environment.

4.1.2.1 TECHNICAL REQUIREMENTS.

The Contractor shall provide a PDCT-A class with the following attributes and components:
a. The integral bar code scanner shall scan the low to high density, linear bar codes specified in the paragraph entitled “Bar Code Symbologies”;
b. The internal bar codes scanner or imager shall provide a depth of field of at least 4 inches for low and medium density bar codes and 2 inches for high density bar codes (these are not minimum read distances).

4.1.2.2 SEPARATELY ORDERABLE COMPONENTS

The Contractor shall provide the following Separately Orderable Components for the PDCT-A:
a. PDCT Holster with means of belt attachment;
b. Rechargeable Battery;
c. Semi-transparent, flexible dust cover.

4.1.3 TOUCH-SCREEN PDCT-B.

The Contractor shall provide a full-featured, ruggedized, touch screen PDCT. This PDCT-B is intended for warehouse use with occasional outdoor use in the worldwide Military environment. It shall be of a form to be held flat in the hand (without handle).

4.1.3.1 TECHNICAL REQUIREMENTS.

The Contractor shall provide a PDCT-B with the following attributes and components:
a. The integral bar code imager shall scan the low to high density, linear and 2D bar codes specified in the paragraph entitled “Bar Code Symbologies”;
b. The integral bar code imager shall provide a depth of field of at least 4 inches for low and medium density bar codes and 2 inches for high density and 2D bar codes (These are not minimum read distances).

4.1.3.2 SEPARATELY ORDERABLE COMPONENTS.

The Contractor shall provide the following Separately Orderable Components for the PDCT-B:

a. Universal (Right or Left-handed) PDCT Holster with adjustable, detachable shoulder strap and means of belt attachment;
b. Attachable handle with trigger;
c. Rechargeable Battery;
d. Multiple Battery Charger for a minimum of 4 batteries;
e. Semi-transparent, flexible dust cover.

4.1.4 PHYSICAL KEYPAD PDCT-C.

The Contractor shall provide a full-featured, ruggedized, physical keypad and touch screen PDCT. This PDCT is intended for warehouse use with occasional outdoor use in the worldwide Military environment.

4.1.4.1 TECHNICAL REQUIREMENTS.

The Contractor shall provide a PDCT-C with the following attributes and components:
a. Physical keypad with full alpha-numeric input capability in addition to the touch screen;
b. The integral bar code imager shall scan the low to high density, linear and 2D bar codes specified in the paragraph entitled “Bar Code Symbologies”;
c. The integral bar code imager shall provide a depth of field of at least 4 inches for low and medium density bar codes and 2 inches for high density and 2D bar codes (these are not minimum read distances).

4.1.4.2 SEPARATELY ORDERABLE COMPONENTS.

The Contractor shall provide the following Separately Orderable Components for the PDCT-C Class:
a. Universal (Right or Left-handed) PDCT Holster with adjustable, detachable shoulder strap and means of belt attachment;
b. Attachable handle with trigger;
c. Rechargeable Battery;
d. Multiple Battery Charger for a minimum of 4 batteries;
e. Semi-transparent, flexible dust cover.

4.1.5 OUTDOOR EXTREME TEMPERATURE PDCT-D.

The Contractor shall provide a full-featured, ruggedized, physical keypad and touch screen PDCT. This PDCT is intended primarily for outdoor use in the worldwide Military environment, including inclement weather and temperature extremes.

4.1.5.1 TECHNICAL REQUIREMENTS.

The Contractor shall provide a PDCT-D with the following attributes and components:
a. Physical keypad with full alpha-numeric input capability in addition to the touch screen;
b. The integral bar code imager shall scan the low to high density, linear and 2D bar codes specified in the paragraph entitled “Bar Code Symbologies”;
c. The integral bar code imager shall provide a depth of field of at least 4 inches for low and medium density bar codes and 2 inches for high density and 2D bar codes (these are not minimum read distances).
d. Operate over a temperature range of 0 – 110 degrees Fahrenheit.

4.1.5.2 SEPARATELY ORDERABLE COMPONENTS.

The Contractor shall provide the following Separately Orderable Components for the PDCT-D Class:
a. Universal (Right or Left-handed) PDCT Holster with adjustable, detachable shoulder strap and means of belt attachment;
b. Attachable handle with trigger;
c. Rechargeable Battery;
d. Multiple Battery Charger for a minimum of 4 batteries;
e. Semi-transparent, flexible dust cover.

4.2 NON-CONTACT, HAND-HELD BAR CODE SCANNER/IMAGING DEVICES.

The Contractor shall provide bar code scanners and bar code imaging devices (imagers) that are lightweight, ergonomically designed, and operator-activated. Cable interfaces shall consist of a coiled, strain-relieved cable, expandable from 3 feet to 8 feet in length. The Contractor shall provide a Desktop Stand to hold the bar code imager for ready retrieval when not in use.

4.2.1 TECHNICAL REQUIREMENTS.

The Contractor shall provide ruggedized, hand-held, non-contact, bar code imaging devices. Bar code imagers shall be capable of scanning bar codes printed with direct thermal, thermal transfer, dot matrix, ink jet, and laser technologies, as well as bar codes printed on colored substrates that meet the grade requirements of subparagraph b below. The imagers shall read and decode all of the symbologies listed in the paragraph entitled "Bar Code Symbologies." The Contractor shall provide bar code imagers that:

a. Read the bar codes and densities specified and have a depth of field of at least 4 inches for low and medium density bar codes and 2 inches for high density bar codes and 2D bar codes (these are not minimum read distances);
b. Capable of reading a minimum print quality of grade C bar codes in accordance with ANSI ASCX3.182-1990 (R1995);
c. Provided with a desktop stand.

4.2.2 SCANNER/IMAGING DEVICE WITH KEYBOARD WEDGE CABLE

The Contractor shall provide a bar code scanner/imaging device which is provided with a keyboard wedge cable for interface to a standard PC.

4.2.3 SCANNER/ IMAGING DEVICE WITH USB PC CABLE

The Contractor shall provide a decoding bar code scanner/imaging device which is provided with a cable for interface to a USB port of a standard PC.

4.3 BAR CODE LABEL PRINTERS.

4.3.1 GENERAL REQUIREMENTS.

The Contractor shall provide printers designed for single and bulk production of Bar Code Labels. Printers shall be designed and ruggedized for an industrial warehouse environment.

4.3.2 TECHNICAL REQUIREMENTS.

The Contractor shall provide ruggedized Bar Code Label Printers with the capability to generate general purpose labels, and special purpose labels with special adhesives and ribbons for use in rugged environments. They shall be capable of producing labels on various synthetic and paper label media utilizing both thermal transfer and direct thermal technologies. The printers shall be capable of printing bar codes, text, and black and white graphics on the labels. The Contractor shall provide bar code label printers with the following features:

a. Each bar code printer shall print all bar code symbologies listed in the paragraph entitled "Bar Code Symbologies" at standard densities with at least a Grade A print quality, as defined in ANSI X3.182-1990 (R1995);
b. Capability to store and support two forms comparable in size and data content to the DD Form 1348-1;
c. Capability to print bar codes in all four of the cardinal directions (both picket fence and ladder bar codes);
d. Capability to print bar code symbologies with a minimum resolution of 203 dpi;
e. Capability to print bar codes, using direct thermal and thermal transfer printing;
f. A minimum four-inch throat size;
g. Driver support provided for MS Windows 2000 and Windows XP operating systems.

4.3.3 PORTABLE/WEARABLE BAR CODE LABEL PRINTER.

The Contractor shall provide a Portable Bar Code Label Printer that can be used as a portable or fixed printer with the following attributes and components:

a. Printer size allows the unit to be easily carried with one hand;
b. Easily fastened to a belt or shoulder strap;
c. Delivered with operating and spare rechargeable batteries;
d. Delivered with a cable to interface to the PDCTs;
e. Delivered with a cable to interface to a PC;
f. Capable of printing speeds of at least two inches-per-second;
g. Ability to print labels while the printer is being carried by the user;
h. Capable of printing 1200 linear inches of labels on a single battery.

4.3.3.1 SEPARATELY ORDERABLE COMPONENTS.

The Contractor shall provide the following Separately Orderable Components for the Portable Bar Code Label Printer:

a. Rechargeable Battery;
b. Battery Charger;
c. Printer Carrying Case with shoulder strap (for printer only).

4.3.3.2 CONSUMABLE SUPPLIES.

The Contractor shall provide the following Consumable Supply for the Portable Bar Code Label Printer: Label set consisting of 6 rolls of 4-inch by 6-inch synthetic labels and 3 matching resin-based ribbons.

4.3.4 PORTABLE/STATIONARY BAR CODE LABEL PRINTER.

The Contractor shall provide a portable/stationary bar code label printer suitable for mobile applications, such as set-up at a temporary desk or a moving cart, with the following attributes and components:

a. Delivered with a parallel port or USB interface cable for one-way or two-way communications to a PC host;
b. Minimum throughput speed of four inches-per-second;
c. Capable of AC power supply or battery operation;
d. Delivered with rechargeable battery and spare;
e. Capable of charging battery without removal of battery from printer;
f. Delivered with means of operating from standard electrical power supply (electrical cable and plug or AC Adapter);
g. AC Adapter or power supply shall recharge the operating battery;
h. Capable of printing 1200 linear inches of labels on a single battery;
i. Easily transported and carried in carrying case with one hand.

4.3.4.1 SEPARATELY ORDERABLE COMPONENTS.

The Contractor shall provide the following Separately Orderable Components for the Portable/Stationary Bar Code Label Printer:

a. Rechargeable Battery;
b. Battery Charger;
c. Soft Carrying Case with Strap.

4.3.4.2 CONSUMABLE SUPPLIES.

The Contractor shall provide the following Consumable Supplies for the Portable/Stationary Bar Code Label Printer:

a. Roll of stock for 4-inch by 6-inch synthetic Labels;
b. Resin-based Printer Ribbon.

4.3.5 STATIONARY BAR CODE LABEL PRINTER.

The Contractor shall provide a Stationary Bar Code Label Printer with the following attributes and components:

a. Parallel communication and Ethernet communications ports;
b. Delivered with a parallel or USB interface cable;
c. Capable of on-demand printing for at least 16 hours per day;
d. Capability to use a roll of label stock with a diameter of 8 inches;

e. Automatic sensing for different label sizes;
f. Minimum print speed of 6 inches-per-second;
g. Capability to dispense a self-stripped label on demand;
h. Capable of providing Wireless IEEE 802.11b RF communications interface via separately orderable RF module with antenna.

4.3.5.1 CONFIGURATIONS:

The contractor shall provide the following models of the Stationary Bar Code Label Printer:
a. Stationary Bar Code Label Printer;
b. Stationary Bar Code Label Printer with installed take-up reel, capable of rewinding the entire backing from an 8-inch diameter roll of label stock.

4.3.5.2 SEPARATELY ORDERABLE COMPONENTS.

The Contractor shall provide the following Separately Orderable Component for the Stationary Bar Code Label Printer: Wireless IEEE 802.11b RF data communications interface.

4.3.5.3 CONSUMABLE SUPPLIES.

The Contractor shall provide the following Consumable Supplies for the Stationary Bar Code label Printer:
a. 8-inch roll of 4-inch by 6-inch synthetic Label stock;
b. Resin-based Printer Ribbon.

4.4 DATA COMMUNICATIONS.

4.4.1 RADIO FREQUENCY DATA COMMUNICATION CONFIGURATIONS.

The Contractor shall provide real-time, Radio Frequency Data Communication (RFDC) configurations components that use spread spectrum transmission for linking information to material flow in various applications; for example, in yard, warehouse, and retail operations. Configuration components are RF terminals, access points, relays, and gateways.

4.4.1.1 TECHNICAL REQUIREMENTS.

The Contractor shall provide spread spectrum RFDC configurations for 2.4 to 2.5 GHz (IEEE 802.11b conformant) frequency bands. The Contractor shall provide components with field-selectable/adjustable frequency bands. The Contractor shall provide Application Programming Interfaces that facilitate the development of application programs capable of operation with RFDC frequency configurations. Components operating in the 2.4 to 2.5 GHz band shall have an operating range of at least 500 feet in open unrestricted environments. Since the allowable power and frequency bands of 2.4 to 2.5 GHz configurations varies from country to country, the Contractor shall provide units with allowable output power and frequency bands consistent with the laws, regulations and rules of the country stated on the Delivery Order or Credit Card Order. These components shall comply with requirements of FCC Part 15, Subparts A, B, and C for Class A digital devices. In order to certify the use of AIT-III equipment in these environments, the Government may subject representative categories of equipment to radiated emission and susceptibility tests (See MIL-STD 461D: Requirements for the Control of Electromagnetic Interference Emissions and Susceptibility, and MIL-STD-462D: Measurement of Electromagnetic Interference Characteristics). Those components operating in the 2.4 to 2.5GHz (IEEE 802.11b conformant) band shall maximize net throughput and conform with IEEE 802.11b, Wireless Local Area Networks (WLANs), and support TCP/IP addressing. The 2.4 to 2.5GHz (IEEE 802.11b conformant) wireless communications shall be WiFi compliant. The 802.11b requirements shall adhere to IEEE 802.1x security standard and be upgradeable to the IEEE 802.11i security standard. A Wireless Virtual LAN (WVLAN) Capability shall be provided. At such time as WiFi compliant 802.11g configurations meeting the other functional requirements stated above and interoperable with the offered 802.11b configurations become available, the Contractor shall offer such products to the Government as alternatives to the 802.11b configurations at the same price.

4.4.2 WIRELESS LAN ADAPTER (2.4 TO 2.5 GHZ).

The Contractor shall provide a PC Card, 2.4 to 2.5 GHz (IEEE 802.11b conformant) wireless LAN adapter and software drivers that enable a notebook computer running Windows 2000® or Windows XP® to transmit and receive 2.4 to 2.5 GHz wireless transactions with TCP/IP addressing. The wireless LAN adapter shall support peer-to-peer communications.

4.4.3 RF ACCESS POINTS.

RF access points are small transceivers that are wired into network configurations (combined transceiver, controller, and bridge between wireless and wired communication). These access points permit two-way communications between mobile RF data collection terminals, and a PC or LAN. The Contractor shall provide RF access points that support 2.4 to 2.5 GHz (IEEE 802.11b conformant) spread spectrum communications. The RF access points shall have a direct interface for communicating with a host computer. The 2.4 to 2.5 GHz access point shall be provided with an IEEE 802.3/Ethernet interface card with a 10BaseT connector and shall implement TCP/IP addressing and shall support Simple Network Management Protocol, and Management Information Base (MIB) I and MIB II reporting. This configuration shall support communications and control of 64 RF terminals. IEEE 802.3af "Power over Ethernet" capability shall be provided. Access Points shall be user configurable by both serial and IP connection. User Configuration capability shall allow complete integration into new and existing IEEE 802.11b Wireless Networks. The RF Access Points shall be sufficiently ruggedized for use in industrial warehouse and warehouse docking areas when mounted under-cover (protected from direct precipitation).

4.5 DATA STORAGE MEDIA.

4.5.1 MEMORY CARD.

Memory Cards permit the transfer of data to and from portable data collection terminals, AT-compatible PCs, or other host computers.

4.5.1.1 TECHNICAL REQUIREMENTS.

The Contractor shall provide standard Memory Cards and a fully compliant PCMCIA (PC Card Standard, March 1997 Release, or more recent) adapter. The Memory Cards shall use state-of-the-art memory technologies that allow for dynamic read/write capability; that is, the capability to overwrite specific data without reformatting the entire Card. The Contractor shall provide Memory Cards in the following memory sizes:

a. Memory Card, 256 Megabyte;
b. Memory Card, 1 Gigabyte.

4.5.1.2 SEPARATELY ORDERABLE COMPONENTS.

The Contractor shall provide the following Separately Orderable Component for the PC Memory Card: Memory Card to PCMCIA Type II Adapter (if the Memory card is not in the PCMCIA Type II form factor).

4.5.2 OPTICAL MEMORY CARD.

An Optical Memory Card is a plastic card, generally the size of a credit card, which can store large amounts of information using a laser beam etching technique. Optical Memory Cards are an extremely useful write-once, read-many-times storage medium.

4.5.2.1 GENERAL REQUIREMENTS.

The Contractor shall provide an Optical Memory Card. The physical attributes of the Optical Memory Card shall protect the data on the card against loss from physical, electrical, magnetic, or other external forces. These cards shall be in DELA format and manufactured in accordance with ISO 11693 and 11694. The Contractor shall provide a protective paper sleeve with each Optical Memory Card delivered that protects against damage to the card during warehouse handling, transportation, or in an outdoor environment.

4.5.2.2 TECHNICAL REQUIREMENTS.

The Optical Memory Card shall serve as a portable data carrier and support applications requiring interface to PCs or other host computers. These applications may include, but are not limited to, shipping, manifesting, recording supply and transportation information, forming a database of unprocessed receipts at destination, and for expediting receipt processing. An Optical Memory Card, 2.86 Mbytes (4.1 Mbytes without error correction) shall be provided.

4.5.3 SMALL CONTACT MEMORY DEVICES

Contact Memory Devices are intended for permanent affixing to a variety of cases and weapon system components for use in serial number tracking and recording of component configuration, usage, and repair data. These contact memory devices, also known as buttons, will be subjected to extreme environmental conditions including low atmospheric pressure at high altitudes. Contact memory devices shall be capable of supporting dynamic read/write capability; that is, the capability to overwrite specific data without reformatting the entire device**.** The contractor shall provide battery-less Contact Memory Devices with the following attributes:

a. Two data capacities utilizing same physical and logical interfaces:
   (1) Minimum of 32 Kbyte
   (2) Minimum of 64 Kbyte
b. Button form factor with as small a footprint as possible.
c. Method of permanent attachment to a flat surface.
d. Data retention of at least 50 years.

4.5.4 MICRO CONTACT MEMORY DEVICES

Micro Contact Memory Devices are intended for permanent affixing to a variety of weapons for use in serial number tracking and recording of component configuration, usage, and repair data. These micro contact memory devices, also known as buttons, will be subjected to extreme environmental conditions including low atmospheric pressure at high altitudes. Contact memory devices shall be capable of supporting dynamic read/write capability; that is, the capability to overwrite specific data without reformatting the entire device. The contractor shall provide battery-less Micro Contact Memory Devices with the following attributes:

a. Data capacities of at least 4 Kbytes.
b. Button form factor with as small a footprint as possible.
c. Method of permanent attachment to a flat surface.
d. Data retention of at least 50 years.

4.6 READERS, WRITERS, AND ENCODERS FOR DATA STORAGE MEDIA.

4.6.1 MEMORY CARD READER/WRITER.

Memory Card Reader/Writers are used to write data to, and read data from, Memory Cards described in the paragraph entitled “Memory Card.” The Contractor shall provide a Memory Card Reader/Writer with USB interface to a PC. No damage shall occur to the media or the Reader/Writer when the Card is removed before, during, or after reading or writing operations. The Contractor shall provide Reader/Writer drivers compatible with Windows 2000® and Windows XP®.

4.6.2 CAC CARD INTERFACE FOR PDCTS.

Integrated Circuit Card Reader/Writers are used to write data to, and read data from, Integrated Circuit Cards. ICC Reader/Writers shall be ISO/IEC 7816 compliant. The Integrated Circuit Card Reader/Writer for PDCT interfaces may be an adapter utilizing a memory card slot, or a peripheral device interfacing with the PDCT. If the Reader/Writer is a peripheral device, the PDCT, with the Reader/Writer connected or attached, shall be as mobile as the PDCT alone, and shall permit unencumbered use of the PDCT and the ICC Reader/Writer for PDCT. This device shall interface with all models of offered PDCTs and shall be compatible with DoD CAC program.

4.6.3 OPTICAL MEMORY CARD READER/WRITER.

The Optical Memory Card Reader/Writer is a device that interfaces with a PC or other host computer through a cable or other data transmission method. Data can then be written to, and read from, the Optical Memory Card.

4.6.3.1 GENERAL REQUIREMENTS.

The Contractor shall provide an Optical Memory Card Reader/Writer that can support Optical Memory Card applications requiring interchangeability with personal computers, and support reading and writing to Optical Memory Cards in the DELA format.

4.6.3.2 TECHNICAL REQUIREMENTS.

The Optical Memory Card Reader/Writer connectors shall be compatible with Windows 2000® and Windows XP® PCs. The Contractor shall provide a high-speed computer interface card for the computer. No damage shall occur to the Optical Memory Card or the Reader/Writer when the Card is removed before, during, or after reading or writing operations. The Reader/Writer shall be designed for maximum ease of card insertion and removal, and shall withstand those environmental conditions commonly encountered by data processing equipment. The Optical Memory Card Reader/Writer shall be compact and fit on a desktop. The Contractor shall provide an Optical Memory Card Reader/Writer with either a high-speed Peripheral Component Interconnect (PCI) computer interface card or a USB interface.

4.6.3.2.1 Optical Memory Card Reader/Writer with a high-speed PCI computer interface card or USB interface.

4.6.4 READER/WRITER FOR SMALL CONTACT MEMORY DEVICES

Primary application of the Reader/Writer (probe) will be for use within maintenance facilities, although occasional outdoor use under moderate conditions may be expected.

4.6.4.1 TECHNICAL REQUIREMENTS

Each probe shall be provided with copy/license for any runtime modules, device drivers, etc., required to utilize probe and button functionality. The interface for PDCTs shall work with all offered PDCTs.

4.6.4.2 FORM FACTORS

a. Reader/Writer with USB interface to PC;
b. Reader/Writer with interface for PDCTs.

4.6.5 READER/WRITER FOR MICRO CONTACT MEMORY DEVICES

Primary application of the Reader/Writer (probe) will be for use within maintenance facilities, although occasional outdoor use under moderate conditions may be expected.

4.6.5.1 TECHNICAL REQUIREMENTS

The contractor shall provide Readers/Writers for the Micro Contact Memory Devices. Each probe shall be provided with copy/license for any runtime modules, device drivers, etc., required to utilize probe and button functionality. The interface for PDCTs shall interface with all provided PDCTs.

4.6.5.2 FORM FACTORS

a. Reader/Writer with USB interface to PC;
b. Reader/Writer with interface for PDCTs.

4.7 TRANSIT CASES.

The Contractor shall use best commercial practices in the design and manufacturer of the configured Transit Cases to protect the contained AIT-III equipment. The Transit Cases shall be rigid, stackable, lockable, suitable for rugged environments, reusable, and waterproof to protect AIT-III components during intermodal transport and storage. Transit Cases shall protect AIT-III components from rugged environment damage resulting from dropping during cargo loading and unloading, and vibration and shock when transported as loose cargo over unpaved secondary roads. The Transit Case shall be flexible enough to absorb shock, yet durable enough to protect the contents from forces striking the case from any angle. Transit Cases shall be equipped with automatic pressure-vacuum relief valves to accommodate differences in pressure from sea level up to an altitude of 40,000 feet. The Contractor shall

certify the Transit Cases have been previously accepted by the DoD (i.e., tested and certified under MIL-STD 810D) for use in a rugged environment or have been manufactured and tested in accordance with ATA Specification 300, "Packaging of Airline Supplies"-1960 (R1996), for Category 1 containers. The test parameters shall be as follows:

a. Drop Test or Revolving Hexagonal Drum Test

(Note: Only one of the following four drop tests need be performed depending on the size and weight of the configuration.)

1) ASTM-D775, "Test Method for Drop Test for Loaded Boxes," which shall be performed to satisfy Objectives A and B of the test procedure;
2) ASTM-D880, "Test Method for Impact Testing for Shipping Containers and Systems," which shall be performed to satisfy Objectives A and B of the test procedure;
3) ASTM-D1083, "Test Method for Mechanical Handling of Unitized Loads and Large Shipping Cases and Crates," which shall be performed to satisfy Objectives A and B of the test procedure;
4) ASTM-D782, "Test Method for Shipping Containers in Revolving Hexagonal Drum," which shall be performed to satisfy 100 revolutions of a 7-foot drum.

b. Test for Water Spray Resistance ASTM D951, "Test Method or Water Resistance of Shipping Containers by Spray Method," which shall be performed in conformance with the following conditions:

1) Water temperature shall be within the range of 50 degrees Fahrenheit to 75 degrees Fahrenheit;
2) Flow rate shall be not less than 4 inches per hour;
3) Duration of test shall be not less than one hour.

c. Vibration Test ASTM D999, "Methods for Vibration Testing of Shipping Containers," which shall be performed with the following requirements:

1) Procedure A2 shall be performed;
2) Duration of the test shall be not less than two hours.

4.7.1 TRANSIT CASE INTEGRATION

The Contractor shall perform integration of each Transit Case Configuration. The Contractor shall engineer cutouts or molded cushioning for each Transit Case Configuration as required herein. The Contractor shall certify that each Transit Case configuration will protect the contents of each Transit Case configuration from damage in accordance with the test requirements as specified for the Transit Cases above.

4.7.2 CONTENTS.

The Contractor shall provide Transit Cases that contain cutouts or molded cushioning to protect the contents from damage during transit and storage. AIT-III components contained within the Transit Cases shall not be affixed to the Case. The Transit Case cover shall be non-hinged and inserts shall be split so as to be an integral part of the top and bottom pieces of the case. Cushioning material used for cutouts or molded compartments shall be non-flaking, permanent, reusable, and attached to the Transit Case.

4.7.3 INVENTORY LIST.

Each Transit Case shall have a durable, permanent inventory list of all AIT-III components in the case that includes: Nomenclature, Quantity of Each Component, Number of Cases per Configuration, and Graphic Packing Instructions. The Inventory list shall be affixed to the inside top cover and visible to the user.

4.7.4 TRANSIT CASE COLOR.

The Contractor shall provide Transit Cases in Olive Drab.

4.7.5 TRANSIT CASE SURVIVABILITY.

Transit Case materials shall be treated, or otherwise engineered to protect against Transit Case deterioration caused by moisture, mold, rot, ultraviolet radiation, industrial solvents, hydraulic fluids, petroleum products, and jet fuel. All metallic parts shall be corrosion-resistant.

4.7.6 HUMAN FACTOR SIZE, WEIGHT, AND DIMENSION LIMITATIONS.

The Contractor shall make every effort to minimize the weight, size, and number of Transit Cases for each Configuration. Transit Cases shall be able to fit through a 30-inch wide opening, such as a doorway. The weight of the Transit Case contents shall be evenly distributed between the Transit Case handles, with a low center of gravity when fully loaded or unloaded. The gross weight of the Transit Case plus contents shall not exceed 130 pounds. The use of the Transit Case cover for storage shall not make the cover inordinately heavy causing problems during the lifting or removal of the cover. The weight lifting limits per Transit Case shall not exceed those listed below:

a. One-person lift: 37 pounds;
b. Two-person lift: 74 pounds;
c. Four-person lift: 130 pounds.

4.7.7 HANDLES AND CLASPS.

The Contractor shall provide Transit Cases with a sufficient number of handles to facilitate movement by the specified number of personnel. All one-person and two-person lift Transit Cases shall have at least two handles. Transit Cases requiring a four-person lift shall have a minimum of two handles on each side of the case. Handles shall return to a closed position by a spring-loaded mechanism or a simple restraining mechanism when not in use. Handles and clasps shall be recessed, non-reflective, dark in color, non-corrosive, easily accessible, and operable by personnel wearing low-temperature protective gloves.

4.7.8 IDENTIFICATION PLATE.

An Identification (ID) Plate shall be permanently affixed to each Transit Case. ID Plate lines, letters, numerals, and characters shall be permanent and legible in compliance with DoD Unique Identification Policy reference provided at Appendix A. ID Plates and mounting provisions shall be resistant to abrasion, rain and salt spray, and common cleaning solutions. ID Plates shall not detach from the Transit Case when subjected to the elements and extreme temperatures. ID Plates shall have smooth edges, and shall be free of blisters, cracks, sharp corners, foreign matter, or any other defects. The ID Plate drawings shall be provided to the Contracting Officer's Representative for approval prior to commencement of manufacture of ID Plates and the assignment of serial numbers. The Contractor shall assign a serial number to each Transit Case, and this serial number shall be included in the UID.

4.7.8.1 ID PLATE DIMENSIONS.

Identification plate dimensions shall be no less than 1.75 inches wide by 3.0 inches long. The thickness for all identification plates shall be 0.03 inch, plus or minus 0.0005 inch, without backing material.

4.7.8.2 ID PLATE PRINTING.

Letters printed on ID Plates shall be Gothic capitals, and numbers and characters shall be of similar appearance. The background color shall be black and the printed characters shall be white. Bar codes shall be on a white background with the bar codes printed in black.

4.7.8.3 ID PLATE INFORMATION.

As a minimum, the Government requires the following information on the ID Plate:

a. Contract Number;
b. Contractor And Government Entity (CAGE) Code;
c. National Stock Number (NSN) of the Transit Case Group and Configuration;
d. Approved Government Nomenclature, or Transit Case Group and Configuration Name;
e. Type Designation;
f. Transit Case Serial Number;
g. Government ownership designation "PROPERTY OF THE U.S. GOVERNMENT";

h. The UID of the Transit Case Group and Configuration shall be bar-coded in Data Matrix Symbology.

4.7.8.4 ID PLATE LOCATION.

Identification Plates on Transit Cases shall be located at the left or center of the exterior, vertical surface of the top portion of the Transit Case that is facing the user when the case is ready to be opened. An ID Plate shall also be affixed to the left or center of the exterior, vertical surface of the bottom portion of the Transit Case that is facing the user when the case is ready to be opened. Location of ID Plates shall be consistent for all Transit Cases.

4.7.9 TRANSIT CASE HEALTH AND SAFETY LABELS.

The Contractor shall label each Transit Case to inform users of health and safety considerations before moving or opening the Transit Case. Transit Case health and safety labels shall be placed horizontally (on the front of the case) and externally on the top of each Transit Case in a consistent manner. The health and safety labels shall identify:

a. Gross or loaded weight;
b. Volume in cubic feet and cubic centimeters;
c. External linear dimensions in inches and centimeters;
d. The number of persons required to lift the case (for example, "FOUR-PERSON LIFT") in accordance with the paragraph entitled "Human Factor Size, Weight, and Dimension Limitations" above;
e. Any other consideration that may affect the health or safety of users attempting to lift, move, or open the Transit Case.

4.8 TRANSIT CASE CONFIGURATIONS.

The Contractor shall provide Transit Case Configurations of AIT-III equipment. The Contractor shall request a National Stock Number (NSN) for each Transit Case Group by submitting a DD Form 61, Request for Nomenclature. The Contractor shall provide Transit Case Configurations that are grouped as defined in the following subparagraphs. Each Configuration shall be self-contained, and shall include all necessary adapters, cables and components, and commercial user manuals to operate worldwide. Recognizing that many countries have unique power plug designs, the Government will accept operation with the three plug types designed for use in Central Europe (Germany), North America (United States), and the United Kingdom (Great Britain) as fulfilling the requirement for Worldwide Operation. Most countries of the world conform to one of these plug types. Generally, the North American type plug is acceptable in North and Central America, Western South America, Japan, and parts of Korea. The Central Europe type plug is acceptable in most of Continental Europe and some of the Middle East and Africa. The United Kingdom type plug is acceptable in Great Britain, Ireland, Malaysia, and many countries in the Middle East and Africa. The Contractor shall consolidate applicable accessories with the associated primary component identified in a Transit Case. Contractor furnished Transit Case Configurations CD-ROM Training defined in the Paragraph entitled: "Transit Case Configurations Training CD-ROMs" shall also be included for each of the functional Transit Case Groups. If the Contractor furnished Transit Case Configuration CD-ROMs are not completed prior to Transit Case shipment, the Contractor shall ensure that cut-outs are provided for the CD-ROM training (one or two CD-ROMs). Commercial user manuals shall be provided in accordance with the paragraph entitled "USER MANUALS" and secured within appropriate width slot(s) within each Transit Case.

4.8.1 PDCT TRANSIT CASE GROUP.

4.8.1.1 FIVE PDCT (2.4 TO 2.5 GHZ) RF TRANSIT CASE CONFIGURATION.

The Five PDCT (2.4 to 2.5 GHz) RF Transit Case Configuration shall consist of the following:

a. PDCT-D stored in a Universal PDCT Holster, with attachable handle and trigger, inside a Transit Case cutout, 5 each;
b. Rechargeable Batteries, Operating and Spare, 5 sets each;
c. Multiple Battery Charger, 1 each;
d. RESERVED
e. Communication Docking Station/Battery Charger, 5 each;
f. Set of Universal Power Cords for seven items: Multiple Battery Charger, 5 Communication Docking Station/Battery Chargers, and Access Point, 1 set;;
g. Commercial Manuals, 1 per each piece of equipment;
h. Contractor Furnished Transit Case Configurations Training CD-ROM;

i. Transit Case.
j. RF Access Point with power supply and interface cable, 1 each.

4.8.2 BAR CODE LABEL PRINTER TRANSIT CASE GROUP.

4.8.2.1 STATIONARY BAR CODE LABEL PRINTER TRANSIT CASE CONFIGURATION.

The Stationary Bar Code Label Printer Transit Case Configuration shall consist of the following;
a. Stationary Bar Code Label Printer;
b. Interface Cable to host computer;
c. RESERVED
d. Set of Universal Power Cords, 1 set;
e. Commercial Manuals, 1 per each piece of equipment;
f. Contractor Furnished Transit Case Configurations Training CD-ROM;
g. 8-inch roll of 4 by 6-inch, plastic bar code label stock, 1 each;
h. Resin Printer Ribbon, 1 each;
i. Transit Case.

4.8.3 SEPARATELY ORDERABLE COMPONENTS FOR TRANSIT CASE CONFIGURATIONS.

The Contractor shall provide the following Separately Orderable Components for the Transit Case Configurations:
a. Transit Case Only for the Five PDCT Transit Case Configuration;
b. Transit Case Only for the Stationary Bar Code Label Printer Transit Case Configuration;

5 SOFTWARE, FIRMWARE, AND SECURITY REQUIREMENTS.

The Contractor shall provide software that will operate on a variety of Government-owned workstations, and on AIT-III equipment provided under this Contract. The Contractor shall provide the necessary software to enable the Government to develop applications for AIT-III equipment. The Contractor shall provide Bar Code Label and Form Design and Printing Software, Application Software Development Kit, Application Generation Software, and Wireless Transaction Support Software. The Contractor shall provide development software that operates under the Windows 2000® and Windows XP® operating systems. The Contractor shall provide all AIT-III software on CD-ROM or via electronic download.

5.1 BAR CODE LABEL AND FORM DESIGN, AND PRINTING SOFTWARE.

5.1.1 BAR CODE LABEL AND FORM DESIGN SOFTWARE.

Bar Code Label and Form Design Software is a set of programs in one package that will allow the Government user to design and print bar code labels and forms. The Contractor shall provide bar code label and form design and printing software with graphic support, as well as ISO 9075 SQL Call-Level Interface (open database connectivity). The software shall be capable of generating low, medium, high, and ultra-high Code 39 bar codes, as well as the other bar code symbologies listed in the paragraph entitled “Bar Code Symbologies.” The software shall also be capable of generating DD 1348-1 and DD 1387 forms, and shall be designed to drive the provided bar code label printers. The Contractor shall provide software that allows rapid label and form design without having to learn the complexities of bar code symbologies and printer control languages, displays a “what-you-see-is-what-you-get” editor for designing bar code labels and forms, and allows viewing of bar code labels and forms prior to printing. The software shall also permit the use of fixed or variable data for label or form text and bar codes, and shall import information to be used with labels and forms from databases. The bar code label and form design and printing software shall be capable of running under Windows 2000® and Windows XP®. The software shall support network printing, and no custom programming shall be required for use.

5.1.2 BAR CODE PRINTING SOFTWARE.

The Contractor shall provide bar code printing software that prints on stand-alone print stations where bar code design capabilities are not needed. This software shall be capable of running under Windows 2000®, and Windows XP®.

5.2 PORTABLE DATA COLLECTION TERMINAL OPERATING SYSTEMS

The Contractor shall provide PDCTs with operating systems which provide for and support the following:

a. Graphical User Interface with Pen/Character Recognition;
b. Support for both IPv4 and IPv6;
c. Full system support of color touch screen;
d. Ability to host FIPS-140 security client;
e. Include software to perform data synchronization via cable and wireless to a host PC running Windows 2000® and Windows XP®;
f. Full addressing of on-board RAM and ROM memory and storage card memory of up to 1 GB;
g. Programs developed and compiled from Basic, .NET, and C/C++ development environments/compilers;
h. Wireless data communications (IEEE 802.11b and IEEE 802.11g);
i. Include an Internet Browser capable of passing XML data and PKI certificates;
j. Include utility program to monitor and display battery status.

The Government desires an operating system for the PDCTs for which a variety of third party tools with a wide range of features are available for application program development.

5.3 APPLICATION SOFTWARE DEVELOPMENT KITS.

The Contractor shall provide Application Software Development Kits (SDK) that can be used to produce executable code for all of the provided PDCTs.

5.3.1 PDCT SOFTWARE DEVELOPMENT KIT

The PDCT software development kit shall support all of the features of the AIT-III data collection terminals (PDCTs A-D). Software development kit libraries provided by the Contractor shall interface with Basic, .NET, and C/C++ language compilers and program development environments. Library routines shall be callable by programs developed with standard languages, including Basic, .NET, and C/C++. The SDK shall include all necessary library routines, run time support, and distribution rights to permit full functionality of developed software using the SDK on all deployed platforms, including scanner/imager, screen backlight, and other device-specific features.

5.3.2 SOFTWARE DEVELOPMENT KIT FOR CONTACT MEMORY DEVICES AND READER/WRITER

The Contractor shall provide a Software Development Kit that shall be useable with Basic, .NET, and C/C++ compilers and program development environments. Library routines shall be callable by programs developed with these languages. The SDK shall include all necessary library routines, run time support, and distribution rights to permit full functionality of developed software using the SDK on the PDCT platforms and PCs operating under Windows 2000® and Windows XP®. The SDK shall include necessary software components and libraries to program full functionality of the Contact Memory Devices, and Reader/Writer on the PDCT terminals (in conjunction with standard program development environments/compilers and the PDCT SDK) and PCs operating under Windows 2000® and Windows XP®.

5.4 APPLICATION GENERATION SOFTWARE.

The Contractor shall provide Application Generation Software for the data collection terminals and the host computer. Generated software shall support batch processing, and wired and wireless transactions. The software code generator shall enable programmers and technically oriented, non-programmers to create AIT-III application programs for data collection terminals. The application generation software shall produce executable code for the data collection terminals and the host computer. The application generation software shall provide graphic design, automatic program generation, and an integral simulator to test compiled code, application functionality, and operation prior to the final application being installed on data collection terminals. The Application Generation Software shall run on the Windows 2000® and Windows XP® operating system. The Application Generation Software shall include all that is necessary to develop, test, debug, load, and execute on on a single PDCT. The ability to transfer collected data to a host computer both via wired or wirelessly shall be provided.

5.4.1 SEPARATELY ORDERABLE COMPONENTS.

The Contractor shall provide the following Separately Orderable Component for the Application Generation Software: Single Client Runtime License for Application Generation Software.

5.5 WIRELESS NETWORK MANAGEMENT PLATFORM AND SOFTWARE.

The Contractor shall provide the Network Management Platform and Software which shall allow for configuration and management of a wireless network. The software shall allow for monitoring and configuring the wireless components of the network such as access points and PDCTs.

5.5.1 SEPARATELY ORDERABLE COMPONENTS.

The Contractor shall provide the following Separately Orderable Component for the Wireless Network Management Software: Wireless Network Management Client Software/License for a Single PDCT.

5.6 FIRMWARE REQUIREMENTS.

The Contractor shall provide necessary firmware as part of the equipment configuration of AIT- III components. Firmware shall reflect the baseline configuration and all subsequent Engineering Changes. All firmware available to the user shall be selectable by DIP-switch or software. All firmware shall be installed prior to equipment delivery.

5.7 WIRELESS NETWORK SECURITY.

5.7.1 SERVER SOFTWARE

The Contractor shall provide a Federal Information Processing Standard (FIPS 140) server software solution to communicate securely with associated FIPS 140 PDCD Client software. The server software shall be a minimum of FIPS 140-1 or FIPS 140-2 Compliant and Certified.

5.7.2 CLIENT SOFTWARE

The Contractor shall provide a Federal Information Processing Standard (FIPS 140) client server software solution for all the PDCDs to communicate securely with associated FIPS 140 Server software. The client software shall be a minimum of FIPS 140-1 or FIPS 140-2 Compliant and Certified.

6 MANAGEMENT.

6.1 AIT-III PROGRAM MANAGEMENT.

The Contractor shall provide the following AIT-III Program Management activities and services, as ordered by the Government:

a. Timely and sustained response to program issues and problems that occur during the execution of the contract as identified by PM, AIT;
b. Support via Electronic Commerce, Electronic Commerce Interchange, web technology and automation;
c. Maintain accurate records providing immediate responses to questions or problems;
d. Coordinate through PM AIT to provide coordination with the various Services and Agencies;
e. Develop and maintain the Ordering Guide;
f. Coordinate shipments and deliveries;
g. Report order and delivery status;
h. Provide the requisite Repair Centers (RCs) to perform the repair operations required by this Contract;
i. Maintain repair records, provide access for a designated Government representative to an identified database location for this Contract;
j. Develop and execute a management plan in accordance with the paragraph entitled “AIT-III Management Plan” which incorporates configuration management and risk management;
k. Schedule project reviews and internal seminars and conferences on the Contractor’s vision of new technology;
l. Schedule, perform and conduct demonstrations;

m. Conduct Project Progress Reviews (PPR);
n. Provide Monthly Status Reports;
o. Provide Monthly Equipment and Service Reports (MESR).
p. Provide Equipment Out-of-Warranty Report.

6.1.1 POINTS OF CONTACT.

The Contractor shall provide a list of Contractor points-of-contact to the Contracting Officer's Representative (COR) within ten days of the effective date of the Notice to Proceed. The list shall include names, telephone numbers, facsimile numbers, areas of responsibility for the Contract, addresses, and e-mail addresses. When a key point-of-contact is replaced, the Contractor shall notify the Government COR within five workdays.

6.1.2 CONTRACTOR PROGRAM OFFICE.

The Contractor shall be available to meet with the Government at a PM AIT designated CONUS location within 24 hours notice, without added cost to the Government. This Contractor function shall handle AIT-III programmatic issues, facilitate information exchange, and enhance management coordination.

6.2 AIT-III MANAGEMENT PLAN.

The Contractor shall provide an AIT-III Management Plan. The Plan shall be submitted to the Government COR within thirty days after issuance of the Task Order for Program Management. The Government will either approve the Management Plan, or provide comments to the Contractor for incorporation into the Management Plan, within 10 working days after receipt of the Plan. The Contractor shall then have 10 working days to incorporate the Government's comments into the Plan, and resubmit the Plan. The Contractor shall manage the Contract in accordance with the Government-approved AIT-III Management Plan. The AIT-III Management Plan shall include, but not be limited to, the following:

a. Management and Reporting Methodology for Gathering, Validating and Generating Reports;
b. AIT-III Configuration Management Plan;
c. Risk Management;
d. Repair Center Approach;
e. Integrated Process Team (IPT) Methodology;
f. Electronic Commerce and Electronic Data Interchange Methodology;
g. Web Site Methodology;
h. Training Development and Support;
i. Technology Assessment and Control;
j. Logistics Support.

6.2.1 INTEGRATED PRODUCT TEAMS.

The Contractor shall participate with the Government on AIT-III Integrated Product Teams (IPTs). IPTs will be composed of representatives from all functional disciplines, working together to identify and resolve issues. IPTs will also make sound and timely decisions, build a successful and balanced program, and make maximum use of timely input from the entire Team, including customers and suppliers.

6.2.2 PROJECT PROGRESS REVIEWS.

The Contractor shall conduct Project Progress Reviews (PPRs) for Government personnel at a mutually agreeable facility. The Government will schedule the initial PPR. It is anticipated the first PPR will occur within 90 days after date of notice to proceed. Thereafter, PPRs shall occur on a monthly basis for the first 12 months of the Contract, and quarterly thereafter, for the life of the Contract. During each PPR, the Contractor shall present material that addresses:

a. Status of current technological substitutions and additions;
b. Status of configuration and risk management activities;
c. Status of task orders;
d. Delivery orders and credit card orders received and processed (listed by ordering agency);
e. Repair actions under warranty and maintenance items;

f. Significant trends (quantities by CLINs, component reliability safety issues, problems, and recommended solutions);
g. Minutes from the previous PPR;
h. Activities determined to be of importance to the Government, such as unanticipated problems, and high visibility issues identified by the Government;
i. Status of significant program events;
j. Customer feedback.

The Contractor shall include in each review, a current organizational chart that includes the names and telephone numbers of all key personnel, and any key personnel changes. The Contractor shall prepare and coordinate with the Government, an agenda for all PPRs at least five working days before a scheduled PPR. The Contractor shall prepare and coordinate minutes of the PPRs with PM AIT within five working days after the PPR. Coordination shall be done through electronic mail. Upon PM AIT approval, the Contractor shall, within five working days, post the minutes on the web site.

6.2.3 MONTHLY STATUS REPORT.

The Contractor shall prepare and submit a Monthly Status Report. The report shall be provided not later than the 10th day of the subsequent month. This report shall include a delivery schedule update, a task order schedule status and a Contract data status, including other significant programmatic actions, such as Current Technology Substitutions and Additions proposal status, demonstrations, etc. The report shall also include orders placed by Government contractors in accordance with the paragraph entitled "Government Contractors' Use of Contract" in Part C-1-1. The report shall include, as a minimum, a list of all equipment delivered by:

a. CLIN by month, by Service or Agency, total quantities and dollar amount
b. Year-to-date, total quantities and dollar amount
c. Contract-to-date, total quantities and cumulative dollar amount.

The report format is listed in Exhibit B in this Part.

6.3 CONFIGURATION MANAGEMENT.

6.3.1 AIT-III CONFIGURATION MANAGEMENT PLAN.

AIT -III equipment shall be configuration-controlled, accounted, and audited in accordance with the Government-approved, AIT-III Configuration Management Plan. The Contractor shall provide the AIT-III Configuration Management Plan as an Annex to the AIT-III Management Plan, which shall be submitted to the Government COR for approval within 30 days after issuance of the Task Order for Program Management. The AIT-III Configuration Management Plan shall reflect best commercial practices and shall be in accordance with accepted industry standards. The Plan shall define those instances in which the Government will be notified of pending changes to the AIT-III Equipment Baseline Configuration.

6.3.2 OEM EQUIPMENT CHANGES AND MODIFICATIONS.

All OEM changes prior to Contract Award shall be included in equipment provided under this contract at no increase in price to the Government. The Contractor shall notify the Contracting Officer of all OEM-sponsored changes to any equipment provided on the Contract. All such changes shall be provided to the Government 45 days prior to implementation. The changes are subject to the Contracting Officer’s approval before the changed products may be placed on the Contract.

6.3.3 CHANGES TO SOFTWARE.

The Contractor shall notify the Contracting Officer via Contract Change Proposal of any changes to the software and documentation throughout the warranty period, including any software updates and upgrades (for example, bug fixes, new features, enhancements, and revisions) as they become available. Software changes are further defined as any software product and documentation which is provided for any other customer free of charge, or which the software manufacturer does not consider a new product. Changes to software or documentation (including packaging and shipping) shall be at no additional cost to the Government. All software including initial offerings as well as changes (updates and upgrades) thereto shall be identified with a version number.

6.3.3.1 NOTIFICATION OF SOFTWARE CHANGES.

For any software change involving a change to form, fit or function, the Contractor shall provide PM AIT one copy of the changed software (with documentation) for each affected software item previously accepted by the Government. After Government evaluation of the changed software, the Contracting Officer will notify the Contractor of the acceptance or rejection of the latest release. Software changes not involving a change to form, fit or function shall be provided on the contract after notification is provided to the Contracting Officer.

6.3.4 CORRECTION OF SAFETY HAZARDS OR EQUIPMENT MALFUNCTIONS.

In accordance with commercial practices, the Contractor shall notify the Contracting Officer and PM AIT of all OEM-sponsored changes to correct safety hazards or equipment malfunctions. The Contractor shall implement changes to correct safety hazards in accordance with commercial practices. The implementation shall be in accordance with a mutually agreed-upon schedule. All such changes shall be implemented at no additional cost to the Government.

6.3.5 CONFIGURATION AUDITS.

The Government is required to maintain configuration control over functional and performance requirements (form, fit, and function). Subject to a Technical Engineering Services Task Order, the Contractor shall support the Government in performing Functional Configuration and Physical Configuration Audits. The Contractor shall provide a demonstration of the equipment. At least seven days prior to commencement of the equipment demonstration, the Contractor shall deliver a Demonstration Plan to the Government COR. The Plan shall include the agenda, demonstration procedures, and a matrix identifying the baseline equipment. The baseline matrix shall include, at minimum: Equipment Nomenclature, Model Number, Firmware Version, Software Version, Relevant Specification Paragraph, and any constraints. The matrix shall be in Microsoft Excel spreadsheet format.

6.3.5.1 PHYSICAL CONFIGURATION AUDIT.

A Physical Configuration Audit (PCA) is the formal examination of the “as-built” configuration of a commercial item against its technical documentation to establish or verify the commercial item’s product baseline.

6.3.5.2 FUNCTIONAL CONFIGURATION AUDIT.

A Functional Configuration Audit (FCA) is the formal examination of the functional characteristics of a configuration item to verify that the item has achieved the requirements specified in its functional and allocated configuration documentation. The Functional Configuration Audit is performed by the Government’s Configuration Management Team or Quality Control Representative, by auditing the requirements specifications against the AIT-III Contractor specifications of each configuration item (hardware, software, middleware, and software).

6.4 RISK MANAGEMENT.

Risk Management is an essential part of program management. The Contractor shall continually identify, assess, manage, and control project risks. The objective is to reduce program uncertainties, and to classify risks according to their probability of occurrence, and possible consequences. In accordance with the Government-approved Management Plan, the Contractor shall identify project risks or actions that affect the accomplishment of program objectives. The program risk events include, but are not limited to:

a. Technical performance;
b. Operational performance;
c. Schedule performance;
d. Cost performance;
e. Training;
f. Technical standards;
g. Logistics readiness.

The Contractor shall prioritize project risks and determine the status of risk reduction or mitigation efforts. The Contractor shall report the status of risk management efforts during the PPRs.

6.5 MONTHLY EQUIPMENT AND SERVICE REPORT.

The Contractor shall provide PM AIT, the COR and the Contracting Officer with a Monthly Equipment and Service Report (MESR). The initial MESR shall be submitted covering the month the first AIT-III item is received by the Contractor for repair (warranty or maintenance), and shall be provided within 10 calendar days after the end of each subsequent month. The MESR transmittal document shall be submitted with an electronic signature, and transmitted via electronic mail. The MESR shall include a list of all equipment due to leave warranty status within the next three months not reported in a previous MESR. The Contractor shall provide, as part of the MESR, a consolidated list of service user calls for troubleshooting assistance. This detailed information on warranty and maintenance repairs will be used to identify trends and compliance with equipment turn-around requirements. The MESR shall include a separate line item of description for each AIT-III item service incident and, as a minimum, shall include the following:

a. Return Material Authorization (RMA) tracking number, date, and time assigned to user Category of service action: Per-incident maintenance, Monthly Maintenance, On-call maintenance, or Warranty;
b. Identity of the Federal agency (that is, Army, Navy, DLA, etc.), Government User and Point of Contact, and site requiring the maintenance;
c. Location of the Contractor repair facility providing the service;
d. Parts breakout: nomenclature; National Stock Number (NSN), if available; part numbers; CLIN; and UID;
e. Quantity of each type of component repaired or replaced under the RMA Number;
f. Equipment warranty start date and expiration date;
g. Equipment maintenance start date and expiration date for monthly maintenance;
h. Delivery order number or credit card purchase date and activity;
i. Date and time of field engineer arrival on-site, or receipt of the failed AIT-III equipment at the repair facility;
j. Date and time repair action was completed, or equipment was sent back to the user, shipper or carrier, or when picked up by the user;
k. Remarks section providing information outside of the items listed above, which gives a brief, non-technical description of equipment problems identified, repair action accomplished, parts replaced, UIDs of replacement AIT-III items (if the item was replaced by the Contractor), problems identified but causes not isolated, or a statement of no evidence of failure.

6.6 EQUIPMENT OUT-OF-WARRANTY REPORT.

The Contractor shall provide a Warranty Status Report in Microsoft Excel format, once a year as requested by PM AIT, to include but not limited to, a list of all equipment due to leave warranty status within the next twelve months with UID, model number, Federal Agency, Unique Control Number, Delivery Order Number, shipping date, warranty end date, Government user, point of contact and telephone number. The initial report format shall be provided by the Contractor for Government review and approval within 30 days after issuance of Task Order for Program Management services.

7 REPAIR REQUIREMENTS.

7.1 REPAIR CENTERS.

The Contractor's Repair Centers (RC) shall be operational no later than 90 days after the first delivery order is issued. Within their geographic area of responsibility, RCs shall repair or replace failed AIT-III equipment, provide on-call, per-incident, and mail-in/carry-in repair, and provide technical assistance to users of AIT-III equipment. The Contractor shall define each RC's geographic area of responsibility, and shall inform the Government of these geographic areas of responsibility.

7.1.1 CONTINENTAL UNITED STATES REPAIR CENTERS.

The Contractor shall provide a CONUS Repair Center The RC shall perform repair functions.

7.1.2 OUTSIDE CONTINENTAL UNITED STATES REPAIR CENTERS.

OCONUS Repair Centers shall be responsible for repair functions for their assigned regions, in the same manner as the CONUS RCs. OCONUS RCs shall, as a minimum, be established in the following locations:

a. Germany;
b. Hawaii;
c. Italy;
d. Korea;
e. Japan.

The Contractor shall provide maintenance personnel who have maintenance experience on AIT- III equipment. The maintenance personnel shall have obtained experience prior to their assignment to the AIT-III equipment and software configurations provided under this Contract. All Contractor personnel providing assistance shall understand and speak fluent English.

7.1.3 POINTS OF CONTACT.

The Contractor shall provide the Government with the Point of Contact, telephone numbers, facsimile numbers, e-mail addresses, and mailing addresses for each RC. The Contractor shall provide updates to the Government as changes occur.

7.1.4 WARRANTY AND MAINTENANCE REPAIR RECORDS.

The Contractor shall maintain records for warranty and maintenance repair to AIT-III equipment. The Contractor's records shall include, but not be limited to, RMA number, name, organization, location, equipment name, UID (or serial number, if UID is not required), approximate date of manufacture, user diagnosis, repair diagnosis, date received, status of repair, and date returned. The Contractor shall provide the user status of repair by e-mail query from user, telephone query, facsimile, and web site method for query. The Contractor shall maintain these records for the life of this Contract. The Contractor shall permit a designated Government representative to have read-access to these records for ad hoc queries. The Contractor shall provide the Government representative with information needed to access and generate ad hoc queries.

7.1.5 REPAIR CENTER HOURS OF OPERATION.

Each RC shall be operational between the hours of 8:00 a.m. through 5:00 p.m., local time, Monday through Friday. This excludes Federal and Host Nation Country holidays in the geographic location of the RC.

7.1.6 EQUIPMENT RETURN AND TRACKING.

The Contractor shall provide a method to enable the Government user and the Contractor to quickly identify and track components being forwarded to and returned from the Contractor maintenance repair facilities for warranty and maintenance service. The Contractor shall assign the user an RMA number prior to the Government mailing-in or carrying-in the failed equipment to the nearest RC for repair or replacement. The user shall be informed of the RMA number and serial number of each AIT-III component returned to the Contractor for warranty and maintenance service. All failed equipment returned to the RC will be identified by the RMA number. The RMA number will be used by the Government to help track the failed component through the warranty and maintenance process.

8 CUSTOMER SUPPORT.

8.1 TECHNICAL SUPPORT.

The Contractor shall provide Technical Support, as follows:
a. Troubleshooting and correction of equipment problems;
b. Processing requests for On-call Maintenance;
c. Processing Mail-in/Carry-in warranty and maintenance service issues; for example, assigning RMA numbers;
d. Providing Contractor addresses of the RCs.

8.1.1 TOLL-FREE CUSTOMER SUPPORT HELP DESK.

For the life of the contract, subject to the Option to Extend the Term of the contract, the Contractor shall provide toll-free, telephonic support for a Customer Support Help Desk. The Help Desk will be used by Government AIT-

III users worldwide (CONUS and OCONUS). In countries where toll-free, telephonic support is not available, the Contractor shall accept collect calls to the Customer Support Help Desk from AIT-III users or provide another means to provide AIT-III users with telephonic support capability to the Customer Support Help Desk at no cost to the Government. The Help Desk shall be staffed 24 hours a day, 7 days per week, except when U.S. Government holidays and OCONUS Host Nation holidays coincide. The Help Desk shall track user calls for troubleshooting assistance. Recorded answering services are not acceptable to the Government; however, the Contractor may use an on-line knowledge base, and an on-line RMA input functionality to assist Help Desk staff meet the workload. Contractor personnel staffing the Customer Support Help Desk shall possess sufficient expertise to recommend troubleshooting procedures and possible corrective actions for AIT-III equipment and software, and shall understand and speak fluent English. The Contractor shall maintain records of user calls for troubleshooting assistance capturing the following: Point-of-Contact, location, date, problem, and resolution. This information shall be provided in the MESR.

8.1.2 REPAIR CENTER HELP DESK.

The Contractor shall also provide toll-free telephonic support at each OCONUS RC to be staffed during the RC's official hours of operation. Response to assistance requested outside official working hours shall be within four hours after the beginning of the next workday.

8.1.3 WEB SITE.

The Contractor shall establish and maintain a worldwide web site for Government users within 60 days after the effective date of the Notice to Proceed. The web site shall be available daily on a 24-hour basis, for the life of the contract, subject to the Option to Extend the Term of the contract. As a minimum, the web site shall include, or provide hyperlinks to:

a. Methods for users to track status of delivery orders, task orders and credit card orders using the Government's order number;
b. Warranty and maintenance support;
c. Warranty and maintenance tracking using the RMA number;
d. Exchange of technical information between the Contractor and individual users and groups;
e. Point-of-Contact, telephone and facsimile number, email address and mailing address for each RC;
f. Technical troubleshooting support;
g. Failed equipment tracking and status;
h. Ordering Guide;
i. Operator training;
j. Reference manuals;
k. Project management reports (schedules, IPT and PPR minutes, etc.);
l. Draft AIT-III documents (for electronic review, comment, or concurrence);
m. Recent news items from PM AIT or the Contractor (for example, notifications of the web site being down for maintenance, etc.);
n. Other data as mutually agreed to by the Government and the Contractor;
o. AIT-III device drivers, firmware updates, SDK updates, and Software upgrades.

The Contractor shall ensure that all device drivers needed to operate AIT-III equipment are posted to the web site. At a minimum, the Contractor shall post to the web site those drivers that were developed by the Contractor for use under this Contract. Any initial drivers shall be posted to the web site within 60 days after Notice to Proceed. New and updated drivers shall be posted to the web site within 48 hours of Government approval. In the event that drivers are updated, the original version shall also be maintained on the web site.

9 WARRANTY.

The Contractor shall repair or replace failed AIT-III equipment in accordance with the procedures outlined below. The Contractor shall immediately notify the ordering Contracting Officer, the order Point of Contact and the Contracting Officer's Representative of AIT-III equipment requiring repair or replacement due to apparent user abuse, negligence, or missing significant parts, such as circuit cards or boards.

9.1 WARRANTY SUPPORT.

The Contractor shall provide a minimum of three-year warranty on all hardware and software including parts and labor for all equipment delivered under this Contract. The Contractor shall provide a one-year warranty of all printheads, cables and software. The warranty shall not apply if damage to the equipment is occasioned by fault or negligence of the Government. During the equipment warranty period, the Contractor shall implement changes to correct equipment malfunctions in accordance with best commercial practices. The implementation shall be in accordance with a mutually agreed-upon schedule. These changes shall be made at no additional cost to the Government. The warranty shall fully protect the Government against equipment malfunctions due to material defects, workmanship, or intrinsic operating problems. All warranties shall be included in the purchase price of the equipment, and not priced separately. The warranty period for items ordered by delivery order shall begin upon Government acceptance of the equipment. In the event the Contractor is authorized to use a Certificate of Conformance, the warranty period for items ordered by delivery order shall begin on the date of shipment. The warranty period for items ordered by Credit Card shall be in accordance with the paragraph entitled "Government-Wide Commercial Credit Card" in Part C-1-1. The warranty shall include mail-in/carry-in procedures and on-call procedures as specified below.

9.1.1 WARRANTY MAIL-IN/CARRY-IN PROCEDURES.

The Government will choose whether to select mail-in or carry-in warranty on a case-by-case basis. For warranty mail-in service, the Contractor shall bear all shipping costs, both from and back to Government sites. The Government will be responsible for all carry-in items delivered for warranty service. The Contractor shall be responsible for the equipment from the time of receipt until safe return to the Government. Regardless of method of delivery or customer location, the Contractor shall restore all malfunctioning equipment covered under warranty to a fully operational condition and ship the equipment back to the user for mail-in warranty or notify the user for pickup for carry-in warranty within three workdays after receipt of the failed equipment (CONUS and OCONUS). For mail-in service, the Contractor shall use next-day mail to return the repaired item to the user. The Government will provide the Contractor with any unusual transportation instructions for return shipment after repair.

9.1.2 WARRANTY ON-CALL PROCEDURES.

The Contractor shall provide worldwide on-call warranty service for installed RFDC infrastructure (support equipment and software including RF Access Points), exclusive of portable data collection terminals, when the problem cannot be attributed to them. The Contractor shall dispatch a repair team within eight hours of being notified that equipment covered under on-call warranty is inoperable. Once on-site, Contractor personnel shall replace or return equipment to a fully operational status within two workdays (CONUS and OCONUS).
The Contractor shall provide on-call warranty service outside the official hours of operation when required by the using activity. When warranty service outside the official hours of operation is ordered, the Contractor shall replace or return the equipment to a fully operational status within two calendar days from the time the Contractor is notified of the malfunction.

9.1.3 WARRANTY REPLACEMENT PARTS.

For Contractor warranty service support, only new parts, or parts warranted as new by the Original Equipment Manufacturer (OEM) shall be used for repairs on failed components. Additionally, all replacement parts shall be equal to or better than the replaced parts in terms of quality and performance. Failed parts replaced by the Contractor shall become the property of the Contractor. The effective warranty for all replacement items installed during the initial warranty period shall be equal to the remaining warranty period on the original item, or 90 calendar days, whichever is greater.

10 MAINTENANCE.

Upon expiration of the warranty, the Contractor shall perform maintenance repairs to AIT-III equipment, as ordered by the Government. Provided maintenance services shall include:

a. On-call Maintenance at Government facilities;
b. Mail-in/Carry-in Maintenance at a Contractor Repair Center.

The Contractor shall provide these maintenance services on either a per-incident, or a monthly basis. Prices for On-call Maintenance service shall include all parts, labor and travel. Prices for Mail-in/Carry-in Maintenance service shall include all parts and labor. Additionally, for mail-in items, the Contractor shall be responsible for transportation back to the user. Transportation costs for carry-in items will be the responsibility of the Government; however, the Government may require the Contractor to mail back carry-in items at no additional charge to the Government.

10.1 ON-CALL MAINTENANCE.

The Contractor shall provide worldwide On-call Maintenance for installed RFDC infrastructure (support hardware and software including RF Access Points), exclusive of portable data collection terminals when the problem cannot be attributed to them.

The Contractor shall dispatch a repair team within eight hours of being notified that equipment covered under on-call maintenance is inoperable. Once on-site, Contractor personnel shall replace or return equipment to a fully operational status within two workdays (CONUS and OCONUS).

The Contractor shall provide on-call maintenance outside the official hours of operation when required by the using activity. When maintenance outside the official hours of operation is ordered, the Contractor shall replace or return the equipment to a fully operational status within two calendar days from the time the Contractor is notified of the malfunction.

10.2 MAIL-IN/CARRY-IN MAINTENANCE.

10.2.1 MAINTENANCE PROCEDURES.

The Government will choose whether to select mail-in or carry-in maintenance on a case-by-case basis. The Contractor shall replace or return equipment to a fully operational status and ship the equipment back to the user for mail-in maintenance or notify the user for pickup for carry-in maintenance within three workdays after receipt of the failed equipment (CONUS and OCONUS). Transportation arrangements shall be in accordance with the provisions of the following paragraph entitled “Transportation.” In the event an AIT-III component cannot be repaired, the Contractor shall notify the Government user within one working day after receipt of the component at the Contractor’s facility. The Government user will provide the Contractor with disposition instructions for unrepairable AIT-III components. Additionally, the Contractor shall also note any discrepancies between the equipment received and the order, and of the availability of the repaired equipment for pickup (if applicable) in accordance with the instructions provided by the user. In the case of AIT-III equipment received in Transit Cases, the Contractor shall annotate on maintenance requests or work orders any equipment or component shortages discovered while inventorying the equipment. The Contractor shall provide the Government with a written notice of all equipment or component shortages.

10.2.2 TRANSPORTATION.

Transportation of AIT-III equipment shipped to the Contractor for maintenance will be arranged and paid for by the Government. The Contractor shall use a return shipping method equal to or better than the user’s method of shipment to the Contractor. The Government will provide the Contractor with any unusual transportation instructions for return shipment after repair.

10.2.3 PACKAGING.

The Government may use a Transit Case to ship AIT-III equipment to the Contractor for maintenance. When this occurs, the Contractor shall return serviced equipment to the user in the same Transit Case in which the equipment was received.

10.3 MAINTENANCE REPLACEMENT PARTS.

For Contractor maintenance service support, only new parts, or parts warranted as new by the OEM shall be used for repairs on failed AIT-III components. Additionally, all replacement parts shall be equal to or better than the replaced parts in terms of quality and performance. Failed parts replaced by the Contractor shall become the

property of the Contractor. The effective warranty for all replacement items installed during the maintenance service shall be a minimum of 90 calendar days.

10.4 PREVENTIVE MAINTENANCE.

Preventive maintenance includes all actions performed in an attempt to retain an item in a specified condition by providing systematic inspection, detection, and prevention of incipient failures. Unless otherwise specified, Government personnel will perform all preventive maintenance on items purchased under this Contract. The Contractor shall provide, in detail, all requirements and procedures for preventive maintenance and troubleshooting-level diagnostics, in documentation and user manuals. The Contractor shall provide Material Safety Data Sheets in accordance with FAR Clause 52.223-3 in the "Clauses Incorporated by Reference" section of this Contract. Documentation shall be provided by the Contractor with each appropriate hardware CLIN which shall include preventive maintenance checks, service schedules, and troubleshooting-level diagnostics. The Contractor shall be responsible for all other maintenance and support.

10.5 MONTHLY MAINTENANCE

The Government may, at its sole discretion, order monthly maintenance to be effective immediately upon the expiration of the warranty and continuously thereafter for any item for which monthly maintenance is provided. If the Government orders monthly maintenance after a lapse in coverage either due to the expiration of the warranty or a lapse in monthly maintenance, then the Contractor may subject such items to inspection at no additional cost to the Government to assure the item is in proper working order. Transportation costs for such inspection shall be in accordance with the Maintenance specification paragraph entitled "Transportation." If any such item requires repair, the Government shall order per incident maintenance for that item before the Contractor is required to accept that item under monthly maintenance. The Contractor shall then accept for monthly maintenance any item which it has inspected and found to be in working order, any item for which inspection is not requested within 7 days after receipt of order for monthly maintenance or any item after completion of per incident maintenance**.**

11 TECHNICAL ENGINEERING SERVICES.

11.1 GENERAL.

Technical Engineering Services shall be ordered by Task Order only. The Contractor shall provide Technical Engineering Services on-site at various Government sites and at the Contractor's facility as specified in the Task Order. Technical Engineering Services shall include those services required for AIT-III equipment integration, site analysis, site survey, installation, de-installation, relocation, problem-solving, supporting IPTs, instruction and training, conducting PCAs/FCAs, software development; communications, interfaces with other Government systems, equipment and systems engineering services, systems integration, and, assistance in obtaining host-nation certification and approval for communications and radio frequency equipment, if needed. Any cables or adapters not listed in this Contract, or other items and materials required for installation of Contractor-provided components, may be ordered through this Contract in accordance with the provision entitled "Incidental Materials" in Part C-1-1.

11.1.1 TECHNICAL ENGINEERING SERVICES REQUEST FOR PROPOSAL.

The Contractor shall submit a proposal for required Technical Engineering Services in accordance with the paragraph entitled "Task Order – Technical Engineering Services" in Part C-1-1.

11.2 TRAVEL.

Prices for Contractor personnel travel and per diem to perform technical engineering services shall be in accordance with the paragraph entitled "Travel Expense" in Part C-1-1.

11.2.1 TECHNICAL ENGINEERING SERVICES TRIP REPORT.

The Contractor shall submit a Technical Engineering Services Trip Report to the Task Order POC or Task Order COR, if applicable, within five working days after the completion of each trip made for technical engineering services. The trip report shall be in the Contractor's format and shall contain as a minimum:

a. Report Date;
b. Customer Name, address, POC and telephone number;
c. Project Name;
d. Time arrived, time departed;
e. Any recommended or provided Incidental Material description;
f. Contractor's summary of work completed;
g. Contractor POC name and signature.

11.3 SOFTWARE DEVELOPMENT SERVICES.

Software development services (SDS) shall be limited to development incidental to the AIT-III-related mission that uses equipment purchased under this Contract. AIT-III software development services shall be limited to 30,000 lines of instructions per application. AIT-III SDS shall be limited to the development work required to modify, interface, and integrate an AIT application(s) to an existing Government application(s) and database(s). Services include new software development, which may include translation of existing Government code that has been determined necessary to ensure operation of the system. The Government's rights to software developed under this paragraph shall be governed by DFARS 252.227-7014, Rights in noncommercial computer software and noncommercial computer software documentation.

11.4 SITE SURVEYS AND AIT-III EQUIPMENT INSTALLATION.

11.4.1 SITE SURVEYS AND INSTALLATION PLANS.

The Contractor shall conduct a pre-installation, de-installation, or relocation site survey as specified in the Task Order for each location requiring site survey services. The primary purpose of the site survey is to determine the scope of work for the required installation, de-installation or relocation of AIT-III equipment configurations. Within ten workdays after completion of the site survey, the Contractor shall provide an Installation Plan with supporting documentation and attachments. The Contractor shall submit the Installation Plan via electronic mail to the point of contract specified in the Task Order. Individual documents of over 5 Mbytes in size may be provided by link to a web page or data repository for electronic download, provided they are individually listed and linked from within the original electronic mail message. The Installation Plan shall include, but is not limited to, the following items:

a. Specific details on the methodology for installation and the resources required;
b. Detailed description, by major subheadings, of all installation work to be done by the Contractor at the site, and scheduling and dependency of the various tasks;
c. Site layout plan including detailed drawings or digital pictures of all components, such as racks, cabinets, or consoles;
d. General component specifications including equipment, physical specifications, templates, manufacturer's specific machine configuration and space requirements, special operational line-of-sight requirements between various components, lighting requirements, site construction requirements, power requirements, cabling requirements, network connections, communication lines, cooling requirements, shipping requirements, and all special requirements that do not fall under normal operating conditions;
e. Description of any actions, such as site modifications, which the Government will complete prior to installation of the AIT-III equipment, in sufficient detail to facilitate successful installation of the equipment.

11.4.2 INSTALLATION.

Upon receipt of a Task Order requiring installation, and in accordance with the schedule contained therein, the Contractor shall install AIT-III equipment in accordance with the approved Installation Plan. In instances where work to be performed by the Contractor requires interaction with existing facilities and equipment, the Contractor shall be responsible for any damage to existing facilities or equipment. After installation is completed, the Contractor shall remove all packing, shipping, and storage materials left over from the installation, except upon the request of the user, those materials to be used in the event the equipment needs to be returned to the Contractor for repair.

11.4.3 RELOCATION OF AIT EQUIPMENT.

Upon receipt of a Task Order requiring relocation, and in accordance with the schedule contained therein, the Contractor shall install AIT-III equipment in accordance with the approved Installation Plan. The extent of the services to be performed by the Contractor shall be specified in the Task Order and will vary from minimal involvement (for example, a site survey) to total responsibility for the relocation.

11.5 CONTRACT SUPPORT PERSONNEL.

The Contractor shall provide highly skilled personnel with in-depth knowledge of the Contractor-supplied equipment. Personnel performing on this contract under Technical Engineering Services and training task orders shall meet the qualifications the contractor requires for, and be part of the same work force, providing such services to the general public. The contractor shall provide labor categories that represent a blend of demonstrated technical, supervisory and managerial expertise, analytical skills and knowledge to provide specific tasks, using efficient and state-of-the-art processes, made up of functions including, but not limited to, the following:

a. site survey;
b. component integration;
c. installation and de-installation;
d. user unique training, on-site or class room;
e. systems integration;
f. complex programming support;
g. designing, developing, and troubleshooting complex applications;
h. modeling simulation;
i. analysis in designing operating systems utilities;
j. troubleshooting, following established testing procedures to ensure equipment is properly working;
k. development and revision of technical documentation for software, hardware, and systems;
l. testing online documents for correct operation, content and usability;
m. analyzing systems to identify project objectives and data elements;
n. preparing high level flow-charts and diagrams from which detailed program design may be further developed;
o. database management, associated data analysis and design, and data dictionary tools, as well as distributed systems, and data base development methods and techniques;
p. total system development and integration efforts, including all equipment, software, telecommunications, and networks, based on expert knowledge of automatic identification and data capture fields;
q. outlining problems, and providing solutions to data communication projects and problems based on expert knowledge of modern data transfer methods and network; and
r. technical problem analysis and resolution based on expert knowledge of RF equipment and systems, wireless technologies, and wireless test procedures requirement analysis.

11.5.1 PROJECT MANAGER.

The Project Manager shall serve as the manager of Delivery Orders and Task Orders, and shall be the Contractor's authorized point-of-contact with the Government Contracting Officer, the COR, and the point-of-contact for Delivery Orders, Task Orders and Credit Card Orders. The Project Manager shall be responsible for formulating and enforcing work standards, assigning schedules, and reviewing work discrepancies, communicating policies, purposes, and goals of the organization to subordinates for each project. The Project Manager shall be available to manage Delivery Order and Task Order performance and shall not serve in any other capacity under this contract. The Project Manager shall possess demonstrated technical and managerial skills, and shall have experience with database management systems, and associated systems development tools. The Project Manager shall be responsible for formulating and enforcing work standards, assigning schedules, and reviewing work discrepancies, communicating policies, purposes, and goals of the organization to the assigned Contractor personnel for each project. The Project Manager shall be available to manage Delivery Order and Task Order performance.

12 TRAINING REQUIREMENTS.

12.1 TRAINING ON CD-ROMS.

The Contractor shall provide multimedia training as offered to customers in the private sector. Training shall be provided on CD-ROMs, and shall instruct the students on how to operate, maintain, repair, and develop unique application software programs for hardware purchased under this Contract.

12.1.1 TARGET AUDIENCES AND AREAS.

Target audiences utilizing the AIT III training will include technically skilled specialists responsible for supporting and implementing the use of AIT III components and end users responsible for operating the Contractor-provided hardware and software. The AIT III Configuration Training shall encompass an overview of instruction in the following areas:

a. AIT III Configuration Overview (hardware, software, communications). Hardware characteristics and principles of operation, AIT III Configuration hierarchy and software components (including the Operating System communication software interfaces), data structures, queues, and internal tables of the Operating System.
b. Hardware and Software Architecture. Communications processing (including protocols), software designs, interfaces, and assembly (Operating System development) language.
c. Operating System commands.
d. Operating System tailoring and generation, method for the distribution of fixes, problem resolution, and implementation of new software releases.
e. Operations. Set Interrogator parameters, collect loaded information, read and write information, search data to identify priorities and find specific items, create prioritized lists of containers to be unloaded, and locate specific containers based on container number or content data.
f. Diagnostics. Problem definition and resolution, and diagnostic software utilization.
g. Security features (including management considerations, controls, procedures, and software design).
h. Hardware maintenance and support. Preventive maintenance checks and services, and user-level repair operations.

12.1.2 MULTIMEDIA TRAINING.

The Contractor shall provide the training as a Multimedia Training package (MMTP). This MMTP shall provide information in the areas of hardware and software installation, addressing initial problem diagnostics, performance measurements, diagnostic software, and basic component operations. The MMTP shall be developed for the specific target audiences and areas identified in the paragraph entitled “Target Audiences” in this Part. The MMTP shall be a stand-alone software training package providing menu-driven selection of hardware introduction or specific operational task selection using loaded data to simulate real-time scenarios. The MMTP shall be of a type to allow the Government to copy and paste selected information from the CD-ROM into other Government applications. The Contractor shall provide the Government all necessary documentation to enable the Government to perform modifications, and the Government shall have the right to modify, copy, and distribute the MMTP as required for its own use within the U.S. Government. Any software license or notice that is embedded in, or otherwise accompanies, the MMTP shall in no way supercede or limit the Government’s rights under this contract or Federal law. Each training module within the MMTP shall be no longer than 50 minutes in length.

12.1.3 DRAFT MMTP.

The Contractor shall provide PM AIT draft storyboards, and graphics materials within 60 days after the date of a Task Order for the MMPT. The PM AIT will review and approve the drafts and provide comments to the Contractor. The Contractor shall amend or edit the draft MMTP based on the Government’s comments and resubmit a revised draft within 14 days after receipt of the Government’s comments. The Contractor shall provide the final MMTP within 30 days after receipt of PM AIT’s final approval of the draft MMTP materials.

At the Government’s discretion, the Contractor shall attend a minimum of two meetings at PM AIT designated facilities to provide for Government review and input into the MMTP prior to PM AIT final approval of the draft MMTP materials. The Contractor shall provide PM AIT draft storyboards, scripts, and graphics materials ten

workdays prior to each meeting. The Contractor shall also provide an agenda at least ten workdays prior to each meeting, and shall provide meeting minutes within ten workdays after the conclusion of each meeting.

12.1.4 MASTER CD-ROM AND COPIES.

The Contractor shall provide the Government one Master CD-ROM to be used by the Government for reproduction and distribution purposes. The Contractor shall also provide 1000 copies to PM AIT. After the Government has ordered any training Master CD-ROM and 1000 copies, the Contractor shall also provide single copies of any training CD-ROM as a separately orderable item.

12.2 CLASSROOM TRAINING COURSE REQUIREMENTS.

The Contractor shall provide training courses that meet the Government's requirements. At the Government's discretion, the Contractor shall attend a minimum of two meetings at PM AIT designated facilities to provide for Government review and input into the Classroom Training Courses prior to PM AIT final approval of the draft course materials. The Contractor shall provide PM AIT draft student materials ten workdays prior to each meeting. The Contractor shall also provide an agenda at least ten workdays prior to each meeting, and shall provide meeting minutes within ten workdays after the conclusion of each meeting. The following courses of instruction for AIT-III shall be provided:

a. Instructor Training Course;
b. Software Developers Course.

12.2.1 TARGET AUDIENCES.

Target audiences receiving AIT-III training will include technically skilled specialists, instructors, training and software developers, and software acceptance testing personnel. Both military and civilian personnel who are responsible for operating AIT-III equipment may have only limited, or no automatic data processing background. The following career specialties have been identified as the most likely groups to operate AIT-III equipment:

a. Ammunition Handling Specialist;
b. Cargo Handling Specialist;
c. Traffic Management Coordinator;
d. Medical Supply Specialist;
e. Petroleum Supply Specialist;
f. Motor Transportation Specialist;
g. Automated Logistical Specialist;
h. Medical Laboratory Specialist;
i. Supply Specialist.

12.2.2 CLASS SIZE.

Each AIT-III Training Class shall not exceed fifteen students.

12.2.3 CLASSROOM TRAINING LOCATIONS.

All AIT-III training classes shall be conducted at a Contractor or Government facility designated by the Government. Prices for Contractor personnel travel and per diem to perform training services shall be in accordance with the provisions of the paragraph entitled "Travel Expense" in Part C-1-1.

12.2.3.1 CONTRACTOR CLASSROOM TRAINING LOCATION REQUIREMENTS.

The Contractor shall provide all classrooms, laboratory facilities, and AIT-III equipment for training conducted at Contractor training locations.

12.2.3.2 GOVERNMENT CLASSROOM TRAINING LOCATION REQUIREMENTS.

The Government will provide all classrooms, laboratory facilities, and AIT-III equipment for training conducted at Government training locations.

12.2.4 OTHER CLASSROOM TRAINING REQUIREMENTS.

The Contractor shall provide all training materials at Contractor and Government training locations. The student-to-equipment ratio shall not exceed 1:1. Equipment identified for training purposes shall be dedicated to training during scheduled class hours. Inoperative training equipment provided by the Contractor shall be returned to operational condition or replaced no more than one hour after failure of the equipment.

12.2.5 TRAINING COURSES.

12.2.5.1 INSTRUCTOR TRAINING COURSE.

The Instructor Training Course shall provide instructor training for Government AIT-III instructor personnel and shall be interactive with AIT-III equipment. A minimum of 75 percent of the training shall be hands-on. The Course shall prepare Government AIT-III instructor personnel to teach all tasks selected as a result of the Contractor's training material submitted and approved during the training meetings. The overall Course length shall not exceed five days, and classroom periods shall be limited to eight hours per day. The Course shall include, but not be limited to the following tasks:

a. AIT-III equipment configuration groups overview;
b. AIT-III equipment power-up and power-down procedures
c. Initial program loading;
d. Use of AIT-III features, including communications;
e. AIT-III equipment configuration set-up and tear-down;
f. Uploading and downloading the PDCTs;
g. Interfaces among the PDCTs, host computers, wireless networks, and printers;
h. Preventive maintenance checks and services;
i. User-level diagnostics, problem solving, troubleshooting, and repairs;
j. Distribution of fixes and new software releases;
k. Security features.

12.2.5.2 SOFTWARE DEVELOPERS COURSE.

The Contractor shall provide a Software Developers Course. This Course shall provide instruction in the use of the Contractor-provided software development kits for the PDCTs and current versions of the PDCT Operating System. This Course shall include the characteristics and principles of operating systems, operating systems commands including tailoring and generation, communications, data structures, queues, software interfaces, internal tables, communications-processing protocols, and the development of unique software application programs. The Course shall teach all tasks selected as a result of the Contractor's training material submitted and approved during the training meetings. The overall Course length shall not exceed five days, and classroom periods shall be limited to eight hours per day.

12.3 INSTRUCTIONAL AND OVERVIEW CD-ROMS.

The Contractor shall provide AIT-III instructional and overview CD-ROMs in an industry standard format. Instructional and interactive CD-ROMs shall instruct users in all aspects of the proper usage, installation, operation, troubleshooting, and maintenance of AIT-III equipment. The Contractor shall provide the following interactive CD-ROMs:

a. Executive Overview;
b. Managers and Supervisors;
c. PDCTs;
d. Bar Code Printers;
e. Wireless Data Communications.

12.3.1 EXECUTIVE OVERVIEW.

The Contractor shall provide a 10 to 15-minute Executive Overview CD-ROM that gives a comprehensive overview of the AIT-III program, the equipment, configurations and interfaces, and the use of the equipment and configurations.

12.3.2 MANAGERS AND SUPERVISORS.

The Contractor shall provide a 20 to 30-minute Managers and Supervisors CD-ROM that explains AIT-III basic concepts. The package shall contain information of a general nature that describes the proper use, installation, operation, interfaces, management control, security features, logistics support, and field applications of AIT-III equipment.

12.3.3 AIT-III EQUIPMENT GROUP CD-ROMS.

The Contractor shall provide three AIT-III Equipment Group CD-ROMs. The Contractor shall use a professional authoring package and the CD-ROM shall be interactive in nature. The Training CD-ROMs shall be a stand-alone software training package, providing computer-based training with video, audio, and animation. One copy of the source code shall be provided to the Government and shall be usable as Government-owned intellectual property, with no additional fees for extraction of excerpts for use in Government developed manuals and documentation. The AIT-III Equipment Group CD-ROMs shall provide the user with detailed instructions and explanations of AIT-III equipment primary functions, principles of operation, descriptions of equipment configurations that include interfaces, cables, and adapters, software, function keys, problem solving, troubleshooting, and preventive maintenance checks and services. Definition of the three AIT-III equipment groups follows below.

12.3.3.1 PDCT

The following AIT-III equipment and features shall be addressed in the PDCT CD-ROM:

a. All PDCTs;
b. Nonincendive Functions;
c. Pen-based and Graphical User Interface Data Entry;
d. Use of Attachable or Peripheral AIT-III Devices;
e. Use of Memory Cards with PDCTs.

12.3.3.2 BAR CODE PRINTERS

The following AIT-III equipment and features shall be addressed in the Bar Code CD-ROM:

a. Portable/Wearable Bar Code Label Printer;
b. Portable/Stationary Bar Code Label Printer;
c. Stationary Desktop Bar Code Label Printer;
d. Stationary Desktop Bar Code Label Printer with Take-Up Reel.

12.3.3.3 DATA COMMUNICATIONS.

The following AIT-III equipment and features shall be addressed in the Data Communications CD-ROM:

a. Wireless LAN Adapter;
b. Wireless connectivity to PDCTs;
c. Wireless connectivity to Bar Code Printers;
d. Wireless network security;
e. Management of wireless network;
f. RF Access Points.

12.3.4 INSTRUCTIONAL AND OVERVIEW CD-ROM MASTERS AND COPIES.

For each required instructional and overview CD-ROM, the Contractor shall provide one Read/Write commercial standard CD-ROM to be used by the Government as its master copy for use in reproduction and distribution purposes. The Contractor shall also provide CD-ROM copies as Separately Orderable Components.

12.4 TRANSIT CASE CONFIGURATIONS TRAINING CD-ROMS.

Each AIT-III Transit Case Configurations Training CD-ROM shall consist of a one or two CD-ROM set. The Contractor shall use a professional authoring package and the CD-ROM shall be interactive in nature. The Training CD-ROMs shall be a stand-alone software training package, providing computer-based training with video, audio, and animation. One copy of the source code shall be provided to the Government and shall be usable as Government-owned intellectual property, with no additional fees for extraction of excerpts for use in Government

developed manuals and documentation. The Contractor shall provide AIT-III Transit Case Configurations Training CD-ROMs for each of the two functional Transit Case Configurations. The Transit Case Configurations Training CD-ROMs shall provide detailed, step-by-step explanations of fundamental AIT-III equipment start-up operations, user procedures, interfaces, user maintenance, precautions, troubleshooting, and problem-solving for each functional Transit Case Configuration defined in the paragraph entitled "Transit Case Configurations".

12.4.1 TRANSIT CASE CONFIGURATIONS TRAINING CD-ROM MASTERS AND COPIES.

For each required Transit Case Configurations Training CD-ROM, the Contractor shall provide one master CD-ROM on an industry-quality, master CD-ROM to be used by the Government for reproduction and distribution of the multimedia training package. The Contractor shall also provide CD-ROM copies as Separately Orderable Components.

13 DOCUMENTATION REQUIREMENTS.

13.1 GOVERNMENT RIGHTS.

The Government shall have full and unrestricted rights, in accordance with copyright laws and regulations, to use and reproduce for its own use, all documentation provided under this contract. In addition, a separate set of user manuals and software reference documentation shall be provided to the COR for any piece of equipment that interfaces with a host computer system. User manuals and software documentation shall be in the Contractor's format.

13.2 USER MANUALS.

The Contractor shall provide commercially available user manuals for each piece of equipment that provide step-by-step procedures for each function performed by the equipment. These user manuals shall identify all preventive maintenance tasks and troubleshooting procedures. The Contractor shall provide a commercially available users manual with each piece of equipment shipped.

13.3 SOFTWARE REFERENCE DOCUMENTATION.

The Contractor shall provide software reference documentation to be used by software developers creating AIT-III applications. The documentation shall contain specific details for the integration of AIT-III equipment. The documentation shall be at a level of detail sufficient to fully define the operator interface and application operations.

14 ORDERING GUIDE.

The Contractor shall provide an Ordering Guide (OG) to assist Government users in determining the system configuration that will best meet their operational requirements. The Contractor shall provide the OG no later than 120 days after issuance of the Program Management Task Order. The OG shall be a comprehensive tool that enables prospective users to complete a Delivery Order, Task Order, or Credit Card Order, and to determine which CLINs best meet operational requirements.

The Contractor shall provide a draft OG electronically to the COR, PM AIT, and Contracting Officer for review within 60 days after issuance of the Program Management task order. The Contracting Officer will either approve the OG or provide comments to the Contractor for incorporation into the OG. The Contractor shall then have 15 workdays to edit the OG based on Government comments. Upon Government acceptance and approval by the Contracting Officer of the draft, the Contractor shall post the OG on the Contractor's web site.

The initial OG shall be approved by the Contracting Officer prior to posting the OG on the Contractor's web site. Subsequent revisions resulting from a formal contract modification shall be posted to the web site within five workdays of issuance of the contract modification. The Contractor shall update the OG for other changes (e.g., Government point of contacts) within five workdays after the receipt of a request from the COR. The Contractor shall post Contractor-related changes within five workdays of the change.

14.1 FORMAT.

The guide shall be provided in nine sections for ease of use. The sections shall provide the user with a complete guide for ordering AIT-III system equipment, software, cables, technical engineering services, training, and maintenance. The Ordering Guide sections shall be organized as follows:

a. Section 1: Ordering Procedures;
b. Section 2: Equipment;
c. Section 3: Recommended Equipment Configurations;
d. Section 4: Software (both operating and application);
e. Section 5: Technical Engineering Services;
f. Section 6: Training;
g. Section 7: Warranty Support;
h. Section 8: Maintenance Support;
i. Section 9: CLIN List and Prices.

14.2 SECTIONS.

Each section of the Ordering Guide shall be technically accurate and complete with descriptions of the equipment, software, or services (as applicable). CLINs shall be used liberally throughout the document to facilitate the user's ability to properly identify the appropriate AIT-III item. CLINs shall be clearly annotated on drawings, charts, product descriptions, specification sheets, etc. The following paragraphs identify the minimum requirements for each section of the Ordering Guide:

14.2.1 SECTION 1 — ORDERING PROCEDURES.

Section 1 shall contain procedures that provide the user with all the necessary information required to order AIT-III items. Service or Agency points-of-contact, telephone numbers, and addresses shall be included. Necessary documents and forms required to order AIT-III items and document receipt shall be clearly indicated.

14.2.2 SECTION 2 — EQUIPMENT.

Section 2 shall be organized into sub-sections based upon the major types of equipment provided, and include a discussion of the salient features of each piece of equipment, including physical dimensions, power requirements (wattage and voltage), heat generated by equipment, and site preparation requirements. Precautions, such as the minimum distance between various devices, shall be provided. All cable requirements for equipment installation shall be described in Section 5 of the Guide. Section 2 shall clearly indicate the appropriate cables and interfaces for the various AIT-III components, and provide a reference to the applicable parts of Section 5. The Ordering Guide shall contain instructions for users to specify equipment destination to ensure the AIT-III equipment is compatible with the commercial power supply and adapter plugs for the geographic area in which it will be operated.

14.2.3 SECTION 3 — RECOMMENDED EQUIPMENT CONFIGURATIONS.

Section 3 shall address the Contractor's recommended equipment configurations to meet various user's AIT-III requirements in easy to understand, step-by-step directions. The recommended configurations shall represent the most economical equipment, software, and service items that meet the users' requirements. This Section will allow users to order and build an AIT-III configuration that best meets their needs. The configurations shall include the appropriate CLIN numbers.

14.2.4 SECTION 4 — SOFTWARE.

Section 4 shall provide a full description of all software packages that includes a discussion of the primary function, minimum memory requirements, program capabilities, and major features and benefits. This section shall explain, in non-technical terms, the recommended software packages including supporting and ancillary items necessary for software use/development (i.e., Visual Studio, eMbedded Tools) for specific applications.

14.2.5 SECTION 5 — TECHNICAL ENGINEERING SERVICES.

Section 5 shall contain procedures that provide the user with all necessary information required to order Technical Engineering Services. All Technical Engineering Services identified in the paragraph entitled "Technical Engineering Services" shall be addressed in this Section.

14.2.6 SECTION 6 — TRAINING.

Section 6 shall provide course descriptions, lengths, prerequisites, course objectives, and recommended audiences for each Training Course.

14.2.7 SECTION 7 — WARRANTY SUPPORT.

Section 7 shall address the warranty provisions of the Contract.

14.2.8 SECTION 8 — MAINTENANCE SUPPORT.

Section 8 shall describe the various maintenance services available to users worldwide. This Section shall include instructions for ordering maintenance support.

14.2.9 SECTION 9 — CLIN LIST AND PRICES.

Section 9 shall provide the CLIN List and Prices for the base year of the Contract, and shall be updated prior to the commencement of each Option Year.

15 CERTIFICATION.

15.1 AIT-III CERTIFICATIONS.

15.1.1 ENERGY STAR.

Equipment meeting the specifications defined in PB 95-250304 shall be certified and properly labeled as meeting the EPA requirements.

15.1.2 NONINCENDIVE CERTIFICATION.

The equipment identified as Nonincendive, as well as its sub-components, shall be designed, manufactured and tested to Nonincendive standards, as specified in the National Electrical Code.

15.1.3 PRODUCT SAFETY CERTIFICATION.

Electrical equipment shall be certified by an authorized, Nationally Recognized Testing Laboratory to either ANSI/UL1950-1997, UL60950, or IEC/UL60950-1.

15.1.4 ELECTROMAGNETIC COMPATIBILITY (EMC) COMPLIANCE.

All applicable equipment shall meet, as appropriate, the requirements of NTIA Manual Annex K and FCC Part 15, Subparts A, B, and C for Class A Digital Devices. In order to certify the use of commercial AIT-III equipment in these environments, the Government may subject representative categories of equipment to radiated emission and susceptibility tests (See MIL-STD 461D: Requirements for the Control of Electromagnetic Interference Emissions and Susceptibility, and MIL-STD-462D: Measurement of Electromagnetic Interference Characteristics). The applicable equipment shall remain unchanged after installation of Contractor-provided internal devices. All applicable equipment for CONUS shall meet the International Special Committee on Radio Interference (CISPR) 22, Class A (International) standards for Radio Frequency Interference/Electromagnetic Interference, and be Underwriters and European Community certified. The Contractor shall test and certify equipment per the guidance provided in the U.S. Department of Commerce National Telecommunication and Information Administration, FCC, and International Standards.

15.1.5 SELF-CERTIFICATION.

The Contractor's self-certification of standards shall be based on the results of testing or inspection the Contractor undertakes or authorizes others to undertake on the Contractor's behalf. Self-certification shall be performed in accordance with ANSI Z-34.2-1987, American National Standard for Certification — Self-Certification by Producer or Supplier.

EXHIBIT A

AIT-III Contract Status Report

		[Month-Year]		Year-to-Date		Contract-to-date	
CLIN	Service	Quantity	Total Amt	Quantity	Total Amt	Quantity	Total Amt
0001AA	Army	5	$5	10	$10	30	$30
	AF	1	$1	3	$3	30	$30
	Navy	10	$10	30	$30	50	$50
	Marine	0	$0	5	$5	10	$10
	Coast Grd	0	$0	5	$5	10	.$10
	DLA/Other	4	$4	5	$5	10	$10
	TOTALS	20	$20	58	$58	140	$140
0002BA	Army	10	$50	20	$100	50	$250
	AF	0	$0	3	$15	10	$50
	Navy	5	$25	10	$50	20	$100
	Marine	0	$0	0	$0	2	$10
	Coast Grd	0	$0	0	$0	0	$0
	DLA/Other	0	$0	5	$25	10	$50
	TOTALS	15	$75	38	$190	92	$460

Note: The CLIN numbers, Quantity numbers and Total Amounts shown above are for illustrative purposes only. The contractor may provide each of the three summaries (Current month, Year-to-date, and Contract-to-date) on separate worksheets of the same spreadsheet file.

Appendix A

Applicable Documents (Standards, Regulations, Guides and Specifications)

Note: The URLs provided are current as of the date of this document.
1. Department of Defense Guides and Specifications.

Joint Technical Architecture (JTA), Version 6 — Department of Defense, 3 October 2003 (http://www.itsi.disa.mil/).

Joint Technical Architecture Army (JTA-A), Version 5.5, 23 December 1998
http://www.army.mil/ciog6/references/Other.html

Defense Information Infrastructure (DII) Common Operating Environment Integration and Runtime Specification (I&RTS), Version 3.0, January 1997 http://disa.dtic.mil/coe/coe_guidance.html

Policy for Unique Identification (UID) of Tangible Items - New Equipment, Major Modifications, and Reprocurements of Equipment and Spares, July 29, 2003 and Update to Policy for UID
http://www.acq.osd.mil/uid/uid_signed_policy_memo_2003.07.29.pdf

Department of Defense Guide to Uniquely Identifying Tangible Items, Version 1.3, November 25, 2003.
http://www.acq.osd.mil/uid/unique_identification_guide_v12_2003.08.26.pdf

References:

a. DoD Memo 9 June 2003, Subject: Internet Protocol Version 6 (IPv6) and Army Implementation of DoD Internet Protocol Version 6 (IPv6) Mandate Memo 5 Nov 2003.
b. DoD Memo 29 September 2003 Subject Internet Protocol Version 6 (IPv6) Interim Transition Guidance.
c. DoDD 8100.1 Global Information Grid Overarching Policy, September 19, 2002
d. DoDDI 8500.2 Subject Information Assurance (IA) Implementation, February 6, 2003.
e. OSD Memo; Subject: “Policy for Unique Identification (UID) of Tangible Items – New Equipment, Major Modifications, and Reprocurements of Equipment Spares”, July 29, 2003 and Update to Policy for UID.
f. DoD Guide to Uniquely Identifying Tangible Items”, Version 1.3, November 25, 2003.

2. Department of Defense Standards.

MIL-STD-461D/2D Requirements for the Control of Electromagnetic Interference Emissions and Susceptibility, 21 May 1996.

MIL-STD-464 Department of Defense Interface Standard Electromagnetic Environmental Effects Requirements for Systems, 18 March 1997.

Security Enterprise Integration Working Group (SEIWG), SEIWG-012, Prime Item Product Function Specification for Magnetic Stripe Credentials (MSC), February 28, 1994.

Energy Star. Environmental Protection Agency (EPA) “Energy Star” requirements per NTTIS document PB 95-250304.

Portable Information Carrier Standard Guidance Document, Version 1.0, October 8, 1996.

3. Availability of DoD Documents. Unless otherwise indicated, copies of specifications, standards and handbooks listed above are available from:

Standardization Document Order Desk

Building 4D
700 Robbins Avenue
Philadelphia PA 19111-5994

4. Government Guidelines and Standards.

FIPS 140-1, Security Requirement for Cryptographic Modules, January 11, 1994
FIPS 140-2, Security Requirement for Cryptographic Modules, May 25, 2001

5. Non-Government Standards and Other Publications.

URLs for locating listed documents:
ANSI-ISO-IEC Catalog (http://www.standardsmall.org/)
ASTM (American Society for Testing and Materials (http://www.astm.org)
OpenCard Framework 1.1 (http://www.opencard.org/index-downloads.html)
PC/SC (http://www.pcscworkgroup.com)
ISO/IEC 7813/AMD1: 1996: Amendment 1 to ISO/IEC 7813:1995
ISO/IEC 7813:1995: Identification cards - Financial transaction cards
ANSI/EIA 706-1997: Component Marking Standard
ANSI/ISO/IEC 7813-1995: Identification Cards - Financial Transaction Cards
ANSI/UL 1950-1997: Information Technology Equipment Including Electrical Business Equipment
ANSI ASC X3.182-1990 (R1995): Guideline for Bar Code Print Quality
ANSI MH10.8.2: Data Application Identifier Standard
ANSI MH10.8M-1993: Materials Handling - Unit Loads and Transport Packages - Bar Code Symbols
ANSI MH10.8.3M-1996: Material Handling - Unit Loads and Transport Packages - Two-Dimensional Symbols
ANSI X3.4-1986 ((R1997): Coded Character Set - 7-Bit American National Standard Code for Information Interchange
ANSI X3.172-1996: Information Technology - American National Standard Dictionary of Information Systems (ANSDIT)
ANSI X3.131-1994: Information Systems - Small Computer Systems Interface-2 (SCSI-2)
ANSI/EIA 498A000-1989: Sectional Specification for Full and Short Keyboards of Certified Quality
ANSI/AIM BC1-1995: Uniform Symbology Specification Code 39
ANSI/AIM BC2-1995: Uniform Symbology Specification - Interleaved 2-Of-5
ANSI/AIM BC3-1995: Uniform Symbology Specification - Codabar
ANSI/AIM BC4-1995: Uniform Symbology Specification Code 128
ANSI/AIM BC10 - International Symbology Specification - MaxiCode
ANSI/AIM BC11-ISS – Data Matrix
General EAN Specifications, 1991 - International Article Numbering Association EAN
General EAN.UCC Specifications
Section 5.5: Reduced Space Symbology® and EAN.UCC Composite Symbology®
(http://www.ean.ie/article_upload/361664_RSSSpecs.doc)
Uniform Symbology Specification - PDF417
UPC Symbol Specification Manual, 1990
ATA Specification No. 300: “Packaging of Airline Supplies”-1960 (R1996)
Automatic Identification Manufacturers (AIM) USA, PDF 417, July 1994
D3951-95: Standard Practice for Commercial Packaging (Includes MIL-STD-129) (ASTM)
ANSI/TIA/EIA 232-F-1997: Interface Between Data Terminal Equipment and Data Circuit-Terminating Equipment Employing Serial Binary Data Interchange
IEEE 1284-1994: Signaling Method for a Bi-directional Parallel Peripheral Interface for Personal Computer
ISO/IEC 7810: 1995, Identification Cards - Physical Characteristics, August 15, 1995
ISO/IEC 7811-2: 1994, Identification Cards - Recording Techniques - Part 2: Magnetic Stripe, August 15, 1995
ISO/IEC 7811-4: 1994, Identification Cards - Recording Techniques - Part 4: Location of Read-only Magnetic Tracks - Tracks 1 and 2, August 15, 1995
ISO/IEC 7811-5: 1994, Identification Cards - Recording Techniques - Part 5: Location of Read-only Magnetic Track - Track 3, August 15, 1995

ISO/IEC 7811-6: 1995, Identification Cards - Recording Technique - Part 6: Magnetic Stripe - High Coercivity, August 15, 1995
ISO/IEC 7816-1: 1987, Identification Cards - Integrated Circuits(s) with Contacts - Part 1: Physical Characteristics, July 1, 1987
ISO/IEC 7816-2: 1988, Identification Cards - Integrated Circuits(s) with Contacts - Part 2: Dimensions and Location of the Contacts, May 15, 1988
ISO/IEC 7816-3: 1989/Amd. 2: 1994, Identification Cards - Integrated Circuits(s) with Contacts - Part 3: Electronic Signals and Transmission Protocols, Amendment 2: Revision of Protocol Type Selection, December 1, 1994
ISO/IEC 7816-4: 1995, Identification Cards - Integrated Circuits(s) with Contacts - Part 4: Inter-industry Commands for Interchange, September 1, 1995
FCC, Part 15, Part 68
NTIA Manual Annex K (http://www.ntia.doc.gov/osmhome/redbook/redbook.html)
X5-9, Uniform Symbol Specification - PDF417

Uniform Symbol Specification - Datamatrix

Uniform Symbol Specification - MaxiCode

X5-2, Uniform Symbol Specification - Code 39
X5-3, Uniform Symbology Specification Codabar
X5-4, Uniform Symbol Specification - Code 128
Availability of Non-Government standards and publications.
Applications for copies should be addressed to the following:
AIM-USA Automatic Identification Manufacturers, 634 Alpha Dr., Pittsburgh, PA 15238-2802
(412) 963-8588; Fax: (412) 963-8753; Internet: http://www.aimusa.org/

American National Standards Institute (ANSI)
1430 Broadway
New York, New York
Telephone Ordering: 212-642-4900

American Society for Testing and Materials (ASTM)
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959
Telephone: 610-832-9585

Federal Communication Commission (FCC) Regulations
International Transcription Services
2100 M. Street, N.W., Suite 140
Washington, DC 20037
Telephone Ordering: 202-857-0611

IEEE
IEEE Service Center
445 Hoes Lane
P.O. Box 1331
Piscataway, NJ 08855-1331

Appendix B

Definitions

The following are definitions of terms used in this Specification and Statement of Work. All other definitions and meanings used shall be those which are commonly used in the Automatic Identification Technology industry:

Automatic Identification Technology — Microprocessor-based, hand-held devices designed to gather, process, and store source-entry data, and transmit and receive data.

Communication Protocol — Transmission Control Protocol and the Internet Protocol (TCP/IP) is the standard communication protocol.

Configuration Item — A configuration item is an aggregation of hardware or software that satisfies an end-use function and is designated by the Government for separate configuration management.

Continental United States (CONUS) — All locations and sites within the 48 contiguous States.

Equipment — The term equipment as used throughout the Specification refers to any combination of equipment, software, device drivers, utilities, libraries, and firmware.

Functional Configuration Audit — The formal examination of the functional characteristics of a configuration item to verify that the item has achieved the requirements specified in its functional and allocated configuration documentation.

Hand-held, Non-contact Bar Code Scanners — These bar code scanners are lightweight and ergonomically designed, provide bar code scanning from varying distances, and do not require the user to physically touch the bar code with the scanner.

HERO — Hazards of Electromagnetic Radiation to Ordnance (See paragraph entitled “Ordnance Environment”).

Host Computer — A computer running Windows 2000®, Windows XP®, or other common operating system executing application programs on behalf of users, and employing standard network communication services in support of this function.

Non-Government Standard — A standardization document developed by a private sector association, organization, or technical society which plans, develops, establishes, or coordinates standards.

Nonincendive — See paragraph entitled “Hazardous Environment”.

Official Hours of Operation — Official hours of operation are from 8:00 a.m. to 5:00 p.m. local time, Monday through Friday, excluding U.S. Federal and Host Nation holidays, based on the geographic location of the U.S. Government site.

Outside Continental United States (OCONUS) — All locations outside the 48 contiguous States.

Outside Official Hours of Operation — All hours not included in Official Hours of Operation, i.e., from 5:00 p.m. to 8:00 a.m. local time, Monday through Friday, and all day during Saturday, Sunday and U.S. Federal and Host Nation holidays, based on the geographic location of the U.S. Government site.

Pen-based character recognition – The ability of a system to recognize printed text on a character-by-character basis when input by a user onto a screen with a stylus-type device where each printed character is individually converted into an ASCII character and passed to the standard input pipe. Handwriting recognition and signature capture are not required.

Physical Configuration Audit — The formal examination of the "as-built" configuration of a configuration item against its technical documentation to establish or verify the configuration item's product baseline.

Product — Includes materials, parts, components, subassemblies, assemblies, and equipment. The term product, wherever used in this Specification, shall also encompass a family of products. A family of products is defined as all products of the same classification design, construction, material, type, etc., produced with the same production facilities, processes, and quality of material, under the same management and quality controls, but having the acceptable variety of physical and functional characteristics defined and specified in this Specification.

Rugged or Ruggedized — See paragraph entitled "Rugged Environment".

Standard — A document that establishes engineering and technical requirements for processes, procedures, practices, and methods that have been adopted as standard. Standards may also establish requirements for selection, application, and design criteria for materiel.

State-of-the-Art Technology — Commercial products that represent recent product designs and performance features. It does not include out-of-date, discontinued equipment and software.

Support — To provide a capability, either by an integral feature or a logically connected device.

Appendix C

Acronyms

The following acronyms are used in this Specification:

AC	Alternating Current
AIM	Automated Identification Manufacturers
AIT	Automatic Identification Technology
API	Application Programming Interface
CAGE	Contractor And Government Entity
CD	Compact Disk
CG	Coast Guard
CLIN	Contract Line Item Number
CONUS	Continental United States
COR	Contracting Officer's Representative
DELA	Drexler European Licensees Association
DCT	Data Collection Terminal
DoD	Department of Defense
EAN	European Article Numbering System
EC	Engineering Change
ECP	Engineering Change Proposal
EID	Electrically Initiated Devices
EMC	Electromagnetic Compatibility
EME	Electromagnetic Environment
EUM	End User Manual
FCA	Functional Configuration Audit
FCC	Federal Communications Commission
GFI	Government Furnished Information
HERO	Hazards of Electromagnetic Radiation To Ordnance
IEC	International Electromechnical Commission
IPT	Integrated Product Team
ITE	Information Technology Equipment
JTA	Joint Technical Architecture
LOGMARS	Logistics Applications of Automated Marking and Reading Symbols
MESR	Monthly Equipment Service Report
NI	Nonincendive
NIST	National Institute of Standards and Technology
NSN	National Stock Number
NVLAP	National Voluntary Laboratory Accreditation Program
OCONUS	Outside Continental United States
OEM	Original Equipment Manufacturer
OS	Operating System
PC	Personal Computer
PCA	Physical Configuration Audit
PCMCIA	Personal Computer Memory Card International Association
PDCT	Portable Data Collection Terminal
PM	Product Manager
PPR	Project Progress Review
RC	Repair Center
RF	Radio Frequency
RFDC	Radio Frequency Data Communications
RFID	Radio Frequency Identification
RMA	Return Material Authorization
ROM	Read Only Memory
SOW	Statement of Work
UPC	Universal Product Code

Appendix D

JTA References

JTA Compliance. The references listed are applicable to the AIT-III Specification and Statement of Work.
Application Support Services (reference JTA paragraph 3.2.1.1.1).
Electronic Mail. ACP 123 U.S. Supplement No. 1, Common Messaging Strategy and Procedures, November 1995.
Directory Services. X.500 and Domain Name System. The DNS provides computer addressing services and is mandated for Internet Protocol (IP)-based services.
X.500 Directory Services. ITU-T X.500. The Directory - Overview of Concepts, Models, and Services - Data Communication Networks Directory, 1993.
Domain Name System (DNS). IAB Standard 13/RFC-1034/RFC-1035, Domain Name System, November 1987.
File Transfer. IAB Standard 9/RFC-959, File Transfer Protocol, October 1985, with the following FTP commands mandated for reception; Store unique (STOU) and Abort (ABOR).
Remote Terminal. IAB Standard 8/RFC-854/RFC-855, TELNET Protocol, May 1983.
Network Management. IAB Standard 15/RFC-1157, Simple Network Management Protocol (SNMP), May 1990. IAB Standard 16/RFC-1155/RFC-1212, Structure of Management Information, May 1990. IAB Standard 17/RFC-1213, Management information Base, March 1991.
Network Time. RFC-1305, Network Time Protocol (V3), April 9, 1992.
Bootstrap Protocol (BOOTP). RFC-951, Bootstrap Protocol, September 1, 1985. RFC-1533, DHCP Options and BOOTP Vendor Extensions, October 8, 1993. RFC-1542, Clarifications and Extensions for the Bootstrap Protocol, October 27, 1993.
World Wide Web (WWW) Services (reference JTA paragraph 3.2.1.1.1.9).
Hypertext Transfer Protocol (HTTP). RFC-1945, Hypertext Transfer Protocol—HTTP/1.0, May 17, 1996.
Uniform Resource Locator (URL). RFC-1738, Uniform Resource Locators, December 20, 1994. RFC-1808, Relative Uniform Resource Locators, June 14, 1995.
Connectionless Data Transfer. MIL-STD-2045-47001, Connectionless Data Transfer Application Layer Standard, July 27, 1995.
Transport Services (reference JTA paragraph 3.2.1.12) Transmission Control Protocol (TCP). IAB Standard 7/RFC-793, Transmission Control Protocol, September 1981. In addition TCP shall implement the PUSH flag and the Nagle Algorithm, as defined in IAB Standard 3.
User Datagram Protocol (UDP). IAB Standard 6/RFC-768, User Datagram Protocol, August 1980.
Internet Protocol (IP). IAB Standard 5/RFC-791/RFC-950/RFC-9191/RFC-922/RFC-792/RFC-1112, Internet Protocol, September 1981. In addition, all implementations of IP shall pass received Type-of-Service (TOS) values up to the transport layer.
Facsimile Standards. TIA/EIA-465-A, Group 3 Facsimile Apparatus for Document Transmission, March 21, 1995. TIA/EIA-466, Procedures for Document Facsimile Transmission, May 1981.
Network Standards (reference JTA, paragraph 3.2.2)
Internet Protocol (IP). IAB Standard 5/RFC-791/RFC-950/RFC-910/RFC-922/RFC-792/RFC-1112, Internet Protocol, September 1981.
Interior Routers. RFC-1583, Open Shortest Path First Routing Version 2, March 23, 1994, for unicast routing. RFC-1584, Multicast Extensions to OSPF, March 24, 1994, for multicast routing.
Subnetworks (reference JTA, paragraph 3.2.2.2).
Local Area Network (LAN) Access. ISO/IEC 8802-3:1993, Carrier Sense Multiple Access with collision Detection (CSMA/CD) Access Method and Physical Layer Specifications, 10BaseT Medium-Access Unit (MAU). IAB-Standard 41/RFC-894, Standard for the Transmission of IP Datagrams Over Ethernet Networks, April 1984. IAB Standard 37/RFC-826, An Ethernet Address Resolution Protocol, November 1982.
Point to Point Standards. IAB Standard 51/RFC-1661/RFC-1662, Point-to-Point (PPP), July 1994. RFC-1332, PPP Internet Protocol Control Protocol (IPCP), May 26, 1992. RFC-1333, PPP Link Quality Monitoring, May 26, 1992. RFC-1334, PPP Authentication Protocols, October 20, 1992. RFC-1570, PPP Link Control Protocol (LCP) Extensions, January 11, 1994. EIA 232E, Interface Between Data Terminal Equipment and Data Circuit Terminating Equipment Employing Serial Binary Data Interchange, July 1991. EIA 449, General Purpose 37-Position and 9-Position Interface for Data Terminal Equipment and Data Circuit Terminating Equipment Employing Serial Binary Data Interchange, February 1980. (This calls out EIA 422B and 423B.) EIA 530A, High Speed 25-Position Interface for Data Terminal Equipment and Data Circuit Terminating Equipment, June 1992, Including Alternate 26-Position Connector, 1992 (This calls out EIA 422B and 423B).

End System Standards (reference JTA, paragraph 3.3.2) IP Next Generation/Version 6 (IPv6)**.** RFC-1883, IPv6 Specification, RFC-1884, IPv6 Addressing Architecture: RFC-1885, ICMPv6 for IPv6, RFC-1886, DNS Extensions to support IPv6.
Mobile Host Protocol (MHP).
Global Positioning System (GPS). GPS User Equipment shall employ Precise Position Service (PPS) user equipment incorporating both Selective Availability and Anti-Spoofing features to support combat operations. The GPS guidelines that are documented in ASD Command, Control, Communications, and Intelligence (C3I) Memorandum "Development, Procurement, and Employment of DoD Global Position System, User Equipment," dated 31 April 1992 shall be followed.
Network Standards (reference JTA paragraph 3.3.3.1).
Wireless LAN. Appropriate equipment shall comply with IEEE 802.11b for wireless services across three transmission media: spread-spectrum radio; narrowband radio; and infrared energy.
Fast Ethernet. IEEE 802.3u.
Personal Communications Services (PCS). IS-41, the current standard within the US, provides this capability and is compatible with the existing signaling and numbering schemes used in the PSTN.
Mobile Cellular. IS-54 and IS-95.
Future Public Land Mobile Telecommunications Systems (EPLMTS) standards.
User Interface Services (reference JTA paragraph 2.2.2.1.2) WIN32 APIs, Window Management and Graphics Device Interface, Volume 1 Microsoft Win32 programmers Reference Manual, 1993, Microsoft Press.
ISO 9075 SQL Call-Level Interface Data Management Services Open Data Base Connectivity).
Document Interchange (reference JTA paragraph 2.2.2.1.4.1) ISO 8879: 1986, Standard Generalized Markup Language (SGML) RFC-1866:1995, Hypertext Mark-up Language (HTML), Internet Version 2.0.
Geospatial Data Interchange (reference JTA paragraph 2.2.2.1.4.3).
Audio Data Interchange (reference JTA paragraph 2.2.2.1.4.6).
Video Data Interchange (reference JTA paragraph 2.2.2.1.4.7).
Operating System Services (reference JTA paragraph 2.2.2.1.7) ISO 9945, IEEE 1003, Win32 APIs.
Internationalization Services (reference JTA paragraph 2.2.2.2.1) ISO/IEC 8859-1, ISO/IEC 10646-1.
Remote Procedure Computer (reference JTA paragraph OSF-DCE Remote Procedure Call (RPC), Version 1.1, 1994. OSF-DCE Time Services, Version 1.1, 1994. OSF-DCE Directory Services, Version 1.1., 1994.
Distributed Object Computing (reference JTA paragraph 2.2.2.2.4.2) OMG, OMG-CORBA Services, OMG-CORBA facilities.